

# OrgaTEX

Production and performance management software for textile finishing





# OrgaTEX

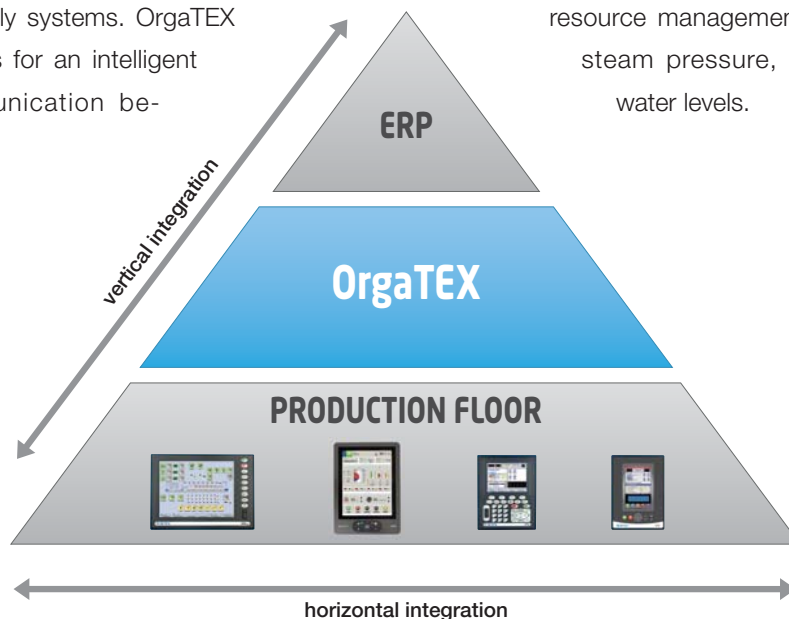
Unlimited information in real-time

In today's competitive marketplace, with continuously increasing cost for raw materials, shorter time-to-market, tight tolerances from retailers, restricted substance lists from brands – while supporting sustainability goals and higher quality – effective production management is essential. OrgaTEX provides technological advanced methods in planning, controlling, supervision and analysis of manufacturing processes.

## ► Greater efficiency, profitability, productivity

Manufacturers experiencing a substantial increase of efficiency by integrating dyeing and finishing machines with automatic weighing, dispensing and supply systems. OrgaTEX provides functions for an intelligent real-time communication be-

tween all systems. In addition, the Manufacturing Execution Software (MES) is crucial to guaranteeing reliable information with regard to resource management of hot water, gas, steam pressure, electricity or waste water levels.



► With SETEX you have one supplier for MES software and machine control hardware.



### ▶ Enables operational intelligence

The OrgaTEX Recipe module provides awe-inspiring features to simplify complex production steps, to save expert know-how systematically and to optimize resource efficiency. A wizard is implemented to provide highly dynamic process optimization. The operational intelligence of this module can empower everyone to prepare individual, specifically optimized production orders that previously would have taken a specialist several hours.

### ▶ Knowing each step

Addressing every single parameter of a dyeing or finishing machine allows smart data handling in the OrgaTEX supervisor and MES software.

Evidence-based key numbers allow:

- Shortening "Time-to-Market" of the products
- Increasing the product transparency and flexibility
- Planning optimization
- Reduction of downtimes
- Lowering production costs

Transparency, consistent documentation and traceability with OrgaTEX make every company secure and profitable. Planning on real-time conditions improve responsiveness and productivity to a maximum.

### ▶ Management key-numbers

- Know-how protection
- Lasting investment
- Production performance
- Resource productivity
- Target and plan

### ▶ Administration key-numbers

- Central multi-source information
- Wide variety of reports and visualization possibilities
- Analysis of production, efficiency, downtimes, shifts, ...
- Standardization

### ▶ Process engineering tools

- Reports, alarms and extensive data logging
- Bottleneck management
- Fast introduction and knowledge transfer with universal platform

### ▶ Energy and environment assessment

- Energy efficiency (electricity, steam, oil, gas)
- Utility management (hot water, water discharge)
- Data for carbon footprint





# Dyeing Manufacturing

## Manufacturing runs and production processes

### Production monitoring

**OrgaTEX Online Supervision** is the real-time information of your running production, presented in an interactive window on your office desktop. Miscommunication and misunderstandings are avoided by using the system to visualize, control and adapt every single process step of the machine environment. Even dispensing call-offs, operator calls and alarm messages are indicated – all centrally from a workstation in the office. With **OrgaTEX Online Supervision** you have your manufacturing under control.

### Real-time access to machine automation

- Shows status as time to next operator call and time to batch end
- Graphical display of process steps
- Online intervention during batch runtime
- Shares data with **OrgaTEX Program Editor**

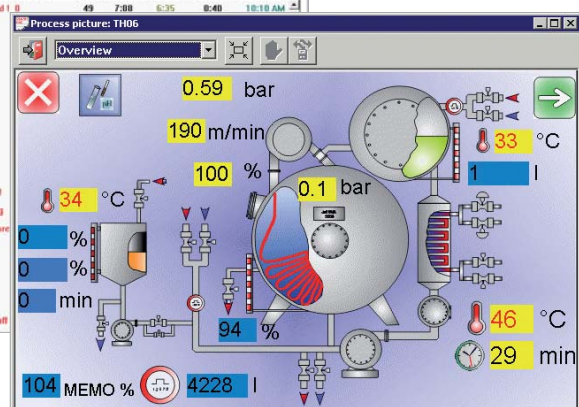
### Summary

OrgaTEX supervision modules enable:

- Fast reaction to unexpected events
- Visualization of critical information
- Flexible production
- Lowering of production costs

Mach	PRIC	Batch no.	Color	Status	F-Name	Time / Temp.	Alarm Name	Crit.Step	Step	Settime	Real Time	Batch end	Unload Time
MC1	0405	RG380788	Silver	Run	Sample	38 °C 0 mi	protect time end 1.8	49	7:08	6:35	8:40	10:10 AM	
MC2	1239	RG400259	Navy	Run	Dosing AT1	58 °C 14 m							
MC3	1808	RG412505	Violet Navy	Run	Temperature Control	77 °C 0 mi							
MC4	0354	RG413046	VRed	Run	Runline	49 °C 3 mi							
MC5	1138	RG411215	Blue 100%	Run	ST -> Machine	46 °C 0 mi							
MC6	1167	RG390075	Green 50/50	Run	Temperature Control	128 °C 30 m							
MC7	1239	RG340679	Black	Run	Dosing AT1	58 °C 20 m							
MC8	0734	RG400525	Royal 100%	Run	Runline	37 °C 6 mi							
MC9	0613	RG390795	Green	Run	Temperature Control	99 °C 3 mi							
MC10	0354	RG413034	Red	Run	Temperature Control	72 °C 0 mi							
MC11	0725	RG411674	True Royal 100%	Run	Temperature Control	74 °C 18 m	Man. pump off 1						
MC12	1141	RG410953	Blue 100%	Run	Check pH	48 °C 18 m	Salt Dispensing						
MC13	0405	RG400138	Red 1	Run	Call DKT -> MC	57 °C 0 mi	DKT1 not prepare						
MC14	0199	RG400635	Prebleaching 1	Run	Temperature Control	78 °C 7 mi	Reprocess						
MC15	1239	RG390422	Black 60/40	Run	Load	34 °C 9 mi							
MC16	0988	RG412215	Navy 50/50	Run	Temperature Control	36 °C 5 mi							
MC17	1011	RG410950	Grey 60/40	Run	Check pH	39 °C 2 mi							
MC18	1059	RG391228	Grey	Run	Temperature Control	63 °C 18 m	Man. winches off						

► Online status



► Process info

## ► Production order analyzing

Ecological and economic reasons may require new products, but innovative and sustainable solutions require measures of the involved production process. The communication of machine automation and OrgaTEX background processes enables automatic process data recording for every batch.

The **OrgaTEX Process Analyzer** displays every production batch, descriptive and graphically, in width and depths. The visualization is configurable to show the essential items of the production process straight to you – down to every sensor signal. Different options for rapid interaction with the info-graphic assist to focus on the desired data.

### Useful documentation for

- Quality standards verification
- ISO 50001 KPIs
- Process transparency
- Preparation and addition treatment processing
- Selection and display of production downtime

## ► Process, treatment and step

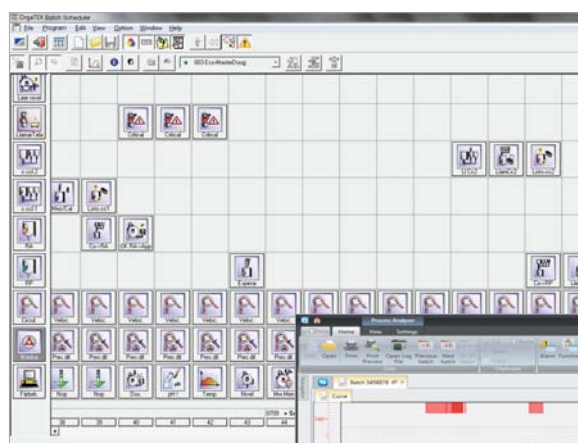
Regardless whether “teaching-in” the local machine programs or preparing new procedures, the **OrgaTEX Program Editor** leads to visualize process information, discovers anomalies and enables to systematically optimize production processes for the existing machinery.

The possibility to split-up processes visually in different parallel tracks, simplifies every complex production procedure. Such structuring enables operators to avoid countless similar dyeing programs and leads to few Standard Operation Procedures (SOP), which makes everyday optimization easier, increases reproducibility and savings.

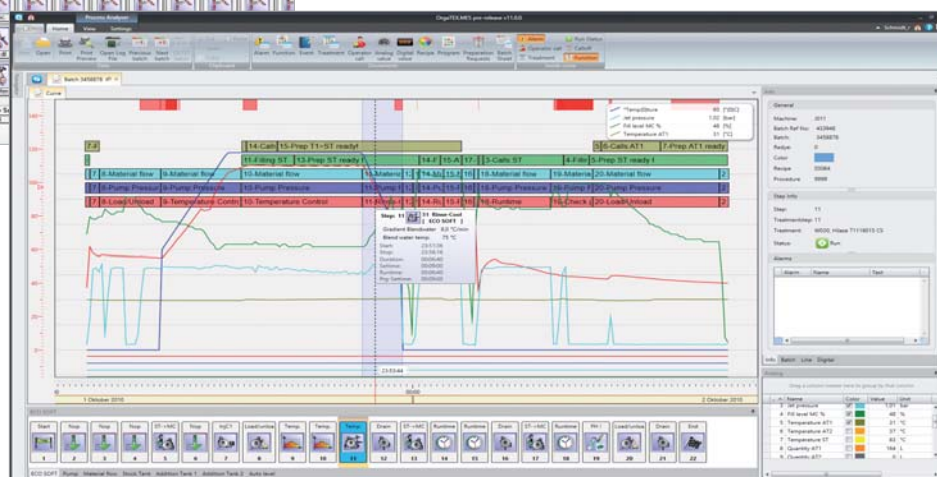
For companies striving to organize production processes more structured in content, the **OrgaTEX Program Editor** provides techniques to compose entire processes out of standard treatment blocks (e.g. prewash, bleaching, soaping, after treatments). Like this, it can be used repeatedly and maintained easily. Thus, by performing process optimization, the data will replicate automatically in the relevant processes.

### Features

- Graphical and tabular forms
- Temperature/time curve
- Variable function parameter with formula integration



► Dye program editor



► Simplicity of access; centralize all essential information



# PDA – Production Data Acquisition

## Industrial performance analyzer

### Production data acquisition

Was the machine productive or just running? To identify and quantify reasons, which impact the performance, the SETEX PDA module makes use of machine controller add-ons to display potential downtime reasons and user input.

If problems occur that trigger alarms, it is important to be able to react quickly and appropriately. Performance, quality and availability (OEE) is impacted by all reasons of unplanned downtimes. The **OrgaTEX Alarm and Event Report** allows to easily assign different alarms of different machines to meaningful messages, the only way to interpret and quickly resolve problems.

### Controller function add-on

Unplanned downtimes are assigned to SETEX controller hotkeys, adding up to 64 different stop

reasons to complete and fine-tune every OEE report. A production increase of 8–25 % can be achieved with informed decisions.

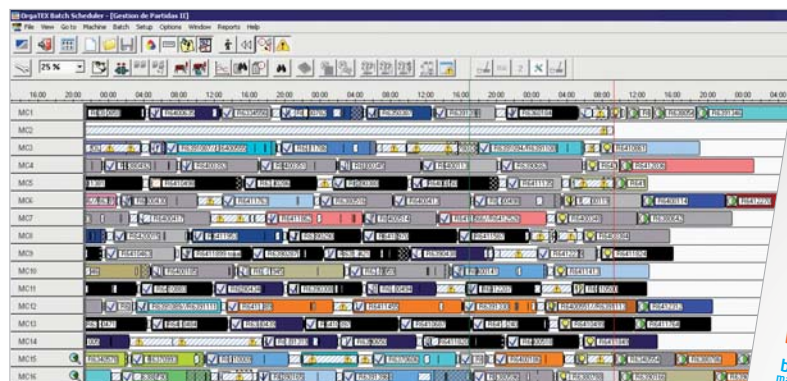


▶ Selection of downtime reasons

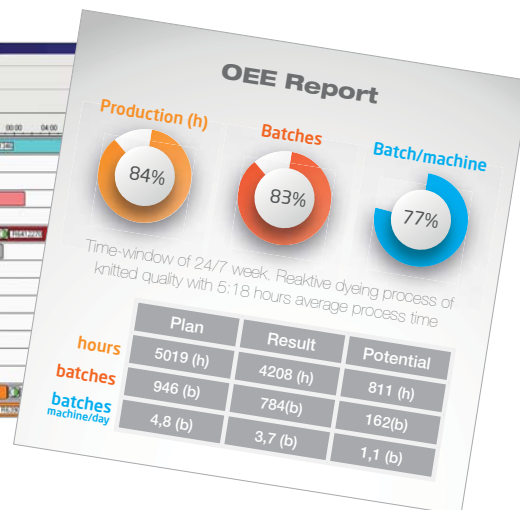
### Software add-on

The Performance Analyzer functionality integrates with **OrgaTEX Batch Scheduler**. The plan-board history visualizes “on-click” scheduled downtimes (e.g. maintenance), unscheduled downtimes with reasons and duration.

Scheduled activities (e.g. maintenance) are integrated into the fine planning visualization and allow precise online production planning.



▶ Downtimes displayed in batch scheduler





# Real-time Batch Scheduler

## Production planning and scheduling

**OrgaTEX Batch Scheduler** is the central platform where all dye lots can be composed, planned and supervised from one vantage point.

The graphical planning board delivers an authentic situation of the entire production by synchronizing business data (e.g. products and delivery time) with production operations (e.g. machine status, maintenance) and real-time communication.

The company business logistic department is able to experience a precise medium and short-term outlook. A dynamic real-time planning visualizes real production time and duration for every batch.

The production department is able to adapt and respond to changes instantly based on real-time production progress monitoring and “on-click” detail information (e.g. chemical call, sampling, queuing error).

For informed decisions in day-to-day activities, all processes in the production chain are linked with the

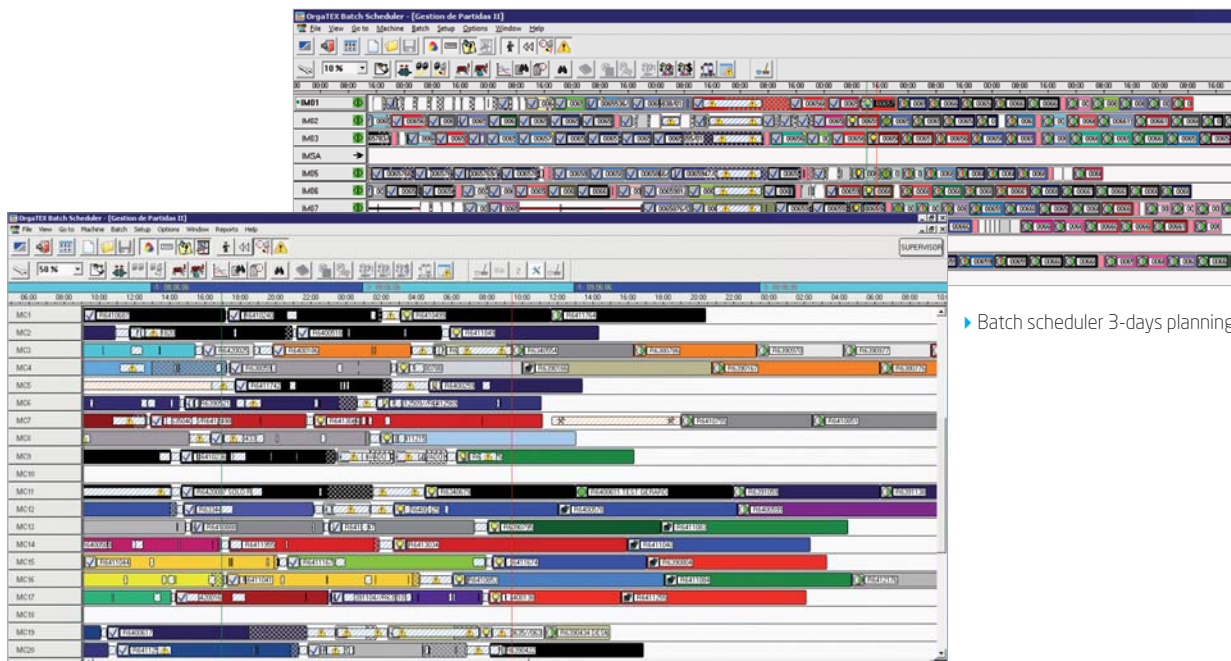
real-time planning and available at one mouse-click, e.g. production recipe, dye lot cost, dye lot history...

To visualize, control and optimize complex facilities, it is possible to configure several different planning boards for each department e.g. preparation, dyeing, finishing and inspection.

### Summary

The **OrgaTEX Batch Scheduler** brings planning online visible and accessible. It allows easy planning for a maximum machine utilization.

- Electronic planning board
- Batch scheduling
- Drag and drop batch arrangement
- Deadline monitoring
- Processing preparations, additions and repairs
- Optional: production downtimes visualization



▶ Batch scheduler 3-days planning

▶ Batch scheduler shift planning



# Reporting

## From BIG DATA to RIGHT DATA

Textile finishing is a competitive and unsteady industry. There is no doubt that there are no two identical companies. Key performance indicators (KPIs) help to position the company, develop key figures for benchmarking and increase margin.

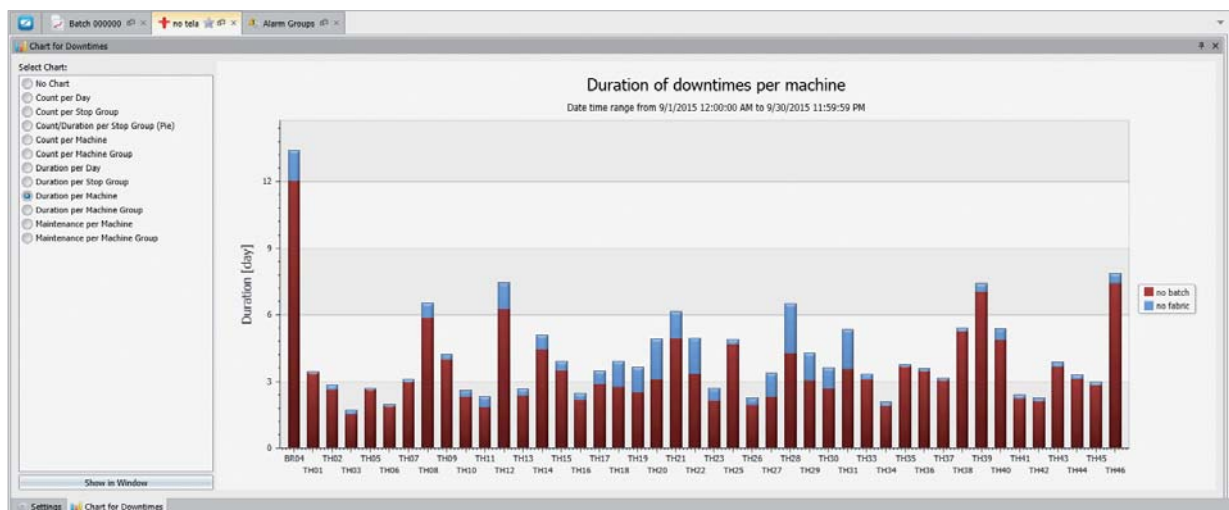
OrgaTEX provides unique insight into the production processes for informed reports on several targets. With **OrgaTEX Reports**, you can empower everyone within your organization to analyze data on-the-fly that previously would have taken a specialist team several hours to answer.

By having connected machines and equipment, and sharing data for batch and process, any specific report can be configured.

### Production efficiency

Product related reporting may be computed in different methods.

- Right first time quote (number of additions)
- Batch report/used ingredients, recipes per batch
- Targeting versus result for a production (t/day)
- Total production costs
- Product costs per kg produced fabric/yarn





## Product analysis

Resource or process related reporting provides information about the machines which have been used to produce a product.

- Machine and production utilization including maintenance
- Reduction of stock (Work In Process)
- Production transparency increase
- Comparison of machine performance with the target
- Comparison between machines

## Weak point analysis

A fault related analysis in combination with the online status module is providing the basic data for a weak spot analysis.

- Process runtimes
- Alarm messages, reports
- Consumption of water, chemicals, dyestuff
- Problems with dispensing, liquor ratio etc.
- Comparison of current with history data

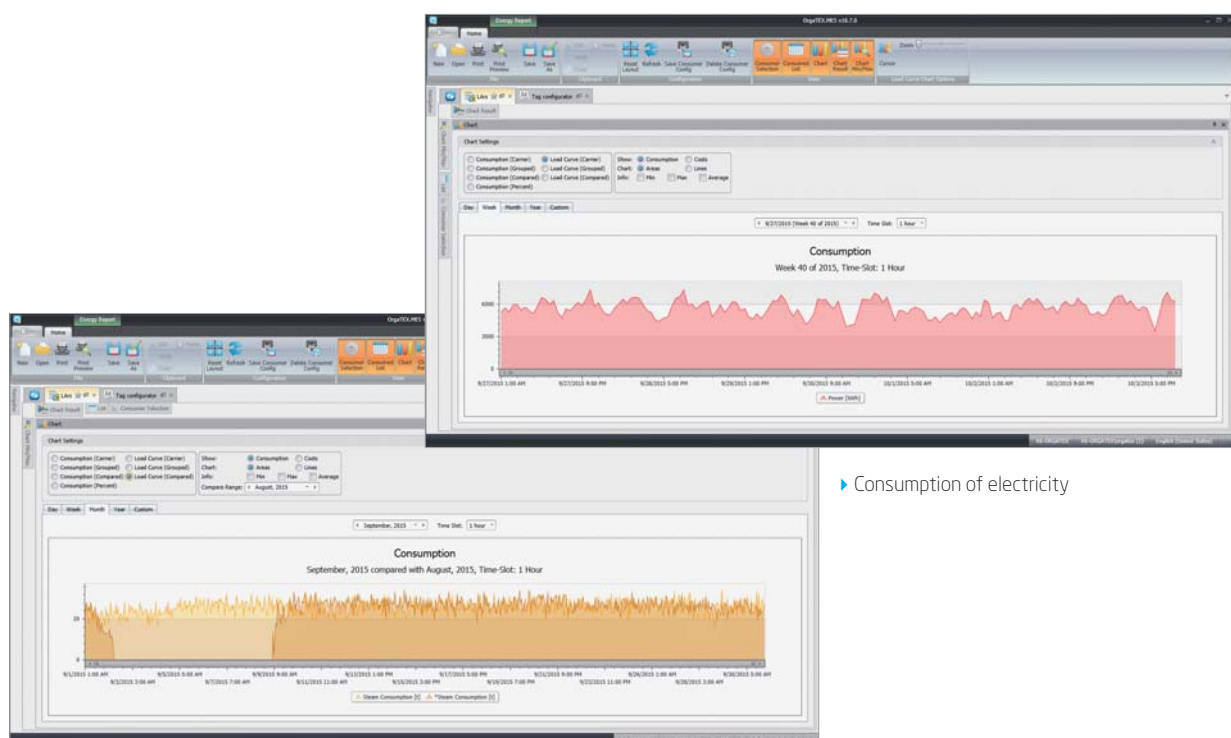
## Overall Equipment Effectiveness (OEE)

Availability against planned times, performance against target values and process quality against additions are the key factors to obtain the real Equipment Effectiveness.

To improve the operational performance it needs information on lead times, maintenance, additions and color corrections, uptimes, planned and unplanned downtimes, etc. In short: OEE adapted to the manufacturing assets.

By monitoring the performance of every single machine in the production floor, adding shared recipe and process information (e.g. alarms) and collecting information of unplanned downtimes, the **OrgaTEX Reporting** tool provides robust information on these grounds.

- Reducing efforts to collect real-time production information
- Preventing unscheduled downtime
- Maximization of production equipment utilization
- Reducing maintenance costs by optimizing planning activities
- Improving process performance
- Easy export to Excel worksheets through “grid to file”
- Easily create presentation-quality reports based on the latest data



Comparison of steam consumption



# Production Recipe

## Built for flexibility

Merging a recipe of colorants and chemicals with a production process, containing every single item for a perfect batch and communicating with machines and dye kitchen systems, has never been easier. The **OrgaTEX Recipe** modules provide awe-inspiring features to simplify complex production steps, to save expert know-how systematically and to optimize resource efficiency.

## Ease of use

The powerful all-new user interface has the following objectives: Firstly, to develop an intuitive and practical interface, which represents considerable savings in time for the user. Secondly, to provide the performers of production processes with an optimized workflow by means of visual clarity. Search and list grid of recipes is configurable to customer's needs.

- Modern editor
- Drag and drop
- Tabbed forms, instant switch
- Perfect overview

Category_Id	Description	Color	Type	Name	LockedLevel
Procedure Recipe					
Conti Program Recipe			Pratical	Conti Dryer	Ok
Conti Program Recipe			Pratical	Finishing	Ok
Procedure Recipe			Pratical	Avitera SE (dark shade)	Ok
Procedure Recipe			Pratical	Avitera SE (dark shade) 13.01.30	Ok
Procedure Recipe			Pratical	Avitera SE (dark shade) Soda_caustic	Ok
Procedure Recipe			Pratical	Avitera SE (pale shade)	Ok
Procedure Recipe			Pratical	Banana (straight)	Ok
Procedure Recipe			Pratical	Burgunder (straight)	Ok
Procedure Recipe			Pratical	Cornfield (straight)	Ok
Procedure Recipe			Pratical	Navy blue (straight)	Ok
Process Recipe			Pratical	4711-jm	Stop

## ▶ Recipe composer

SETEX is aware of the complexity across textile dyeing and finishing. That's why the new **OrgaTEX Recipe** module provides different methods in the recipe composer. Companies preferring straight recipes use single process-templates to start. Others might prefer individual treatments for single process steps (e.g. scouring, bleaching, rinsing) to compose an individual process from standard segments. Either way: The system assists to manage products, product calls and production processes to be adjusted on the capabilities of the machines.

- Inline visualization of lower hierarchical data levels
- New product attributes e.g. restricted substance list
- Quick search

### Intelligent processing

Profitability is achieved by prioritizing an adequate solution over an optimal solution. A tool for taking automatically into consideration – “if this ‘quality’ is used for this ‘customer’, use ‘this product’, otherwise use ‘that product’” – is how the **OrgaTEX Recipe** automates such tasks. We turn complex formula language as “Dim dbIRelSaltAmount () as param” into dyers language and “click-click” right between the recipe lines.

- Instant recipe and process optimization
- Quick and local use
- Save know-how, energy and cost

## ▶ Formula wizard

Outstanding product quality at economical price is usually a result of detailed expert knowledge. The **OrgaTEX Formula Wizard** module is the tool for better distribution of such information. A dyeing expert can store all kind of information and experience centrally, converted in formulas and look-up-tables by simply “click-click”. The resulting formulas are used system-wide – in every recipe and process – by drop-down menu selection. There are predefined formulas already shipped with the system.

- Manage efficiently regularly updated dyeing processes
- Save energy with process optimization
- Improve quality
- Save know-how

### Summary of features

- Product data management
- Quality/style management
- Customer management
- Color matching integration (option)
- Lab dispensing integration (option)
- Recipe and process management
- Formula wizard (option)
- Production management
- Integration with dye kitchen systems (option)
- Inventory module

The screenshot displays the OrgaTEX Recipe composer interface. The top section shows a table of component lines with columns for #, C..., Line, Description, Unit, Value, and Global Formula. The table includes entries for 'Load', 'Scouring (subrecipe)', 'Pretreatment', 'NaOH38', 'Acetic Acid', 'REA', and 'SUM'. Below the table, there is a detailed view of a recipe step, showing a 'Name' field, a 'Description' field, and a 'Procedure' field. The 'Procedure' field contains a list of steps, including 'SCOURING', 'DYEING', and 'NEUTRALIZATION', each with associated parameters and values.

▶ Process recipe

▶ Inline expert tool



# Production Recipe

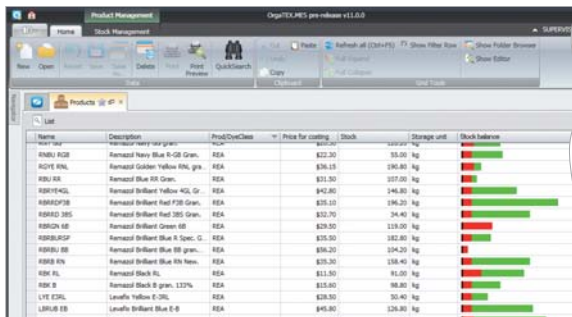
## Inventory and laboratory recipes

### Stock management

Cost of colorants, auxiliaries and a high variability in production require as much transparency as possible for product inventory. Stock amounts, real-time consumption withdrawals and just in time orders for required products below stock minimum is essential for a continuous and on-time production.

#### Features

- Specific stock conditions (minimum, optimal amount and drum capacity)
- Consumption reports with flexible criteria
- Stock reservation on batch disposition
- Real-time stock update on batch completion
- Order list with product amounts below stock minimum
- Cost calculation of stock quantities



Name	Description	Prod/OverClass	Price for costing	Stock	Storage unit	Stock balance
RB01 RB02	Remazol Navy Blue R-GF Gran.	REA	\$12.30	55.00	kg	
ACYE RB01	Remazol Golden Yellow RB01, gra.	REA	\$36.15	190.80	kg	
RB01 RB02	Remazol Blue RB01 Gran.	REA	\$21.30	107.00	kg	
RB01 RB02	Remazol Brilliant Yellow RB01, gra.	REA	\$42.80	245.80	kg	
RB01 RB02	Remazol Brilliant Red F3B Gran.	REA	\$35.10	196.20	kg	
RB01 RB02	Remazol Brilliant Red 185 Gran.	REA	\$32.70	34.40	kg	
RB01 RB02	Remazol Brilliant Green RB01	REA	\$29.30	119.00	kg	
RB01 RB02	Remazol Brilliant Blue R Spec. G	REA	\$35.30	182.80	kg	
RB01 RB02	Remazol Brilliant Blue RB01 gran.	REA	\$36.20	104.20	kg	
RB01 RB02	Remazol Brilliant Blue RB01 New.	REA	\$35.30	138.40	kg	
RB01 RB02	Remazol Black RB01	REA	\$11.30	85.00	kg	
RB01 RB02	Remazol Black R gran. 133%	REA	\$12.80	88.80	kg	
LYE RB01	Leuco Yellow E-08L	REA	\$28.30	30.40	kg	
LYE RB01	Leuco Brilliant Blue E-08	REA	\$45.80	128.80	kg	

► Stock management

### Lab2Bulk

Integrating with laboratory software (e.g. color matching and QC) with the **OrgaTEX Lab2Bulk** module, has a markedly favorable effect of better processes for maintaining accuracy, transparency and standards from lab to production.

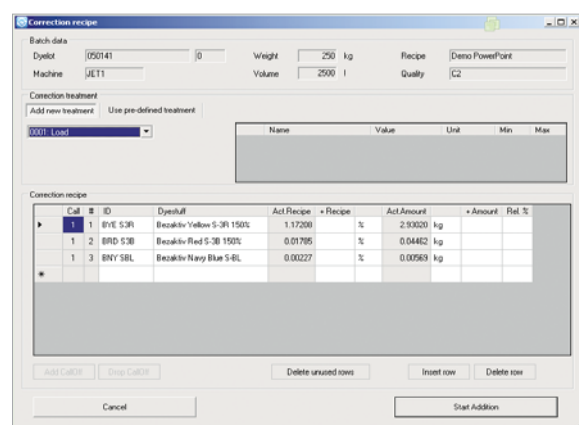
Three modules form the interface:

- **DataSync** sends data of quality-fiber-affinity, product and dyes, dyestuff class, process reference and customer to keep data synchronized.

- **LabRecipeImport** picks automatically tagged laboratory recipes from the Datacolor Match into OrgaTEX and auto-selects the appropriate production treatment (process) to generate a complete production recipe.
- **ProductionCorrection** transfers batches with status "sampling" to the Datacolor laboratory software for instrumental production correction.

#### Features

- Import laboratory-recipe information to save resources and avoid retyping errors
- Auto-assignment to the correct OrgaTEX process or template/treatment combination
- Sharing the necessary root-data to streamline data handling
- True color batch display in the OrgaTEX scheduler (graphical planning)
- Easy and online instrumental production correction and addition calculations
- Enhanced manual correction possibilities



Cat #	ID	Dye lot	Recipe	Act Recipe	Recipe	Act Amount	Amount	Ref. %
1	BYE 53B	Beckite-Yellow 5-3B 150%	1.17230	%	2.93020	kg		
1	BRD 53B	Beckite-Red 5-3B 150%	0.01785	%	0.04462	kg		
1	BNY 5BL	Beckite-Navy Blue 5-BL	0.00227	%	0.00569	kg		

► Online production correction



# OptiWeigh

## Integrated system for reliable weighing

In order to achieve reliable, high level processes, the OrgaTEX module **“Weighing”** provides a constant data stream from scheduling up to the dye kitchen. In combination with the SETEX OptiWeigh components the software guides the operator through the dye kitchen weighing process: precise, reproducible and documented. It provides quick and easy access to the information needed to ensure the right amounts are prepared. It reduces production cost with increasing “right first time”.

### Fully integrated

- Scheduled batches are immediately available on the WT2010 weighing station
- Fast selection of priority jobs with a barcode scanner
- Batch/product status synchronized with OrgaTEX
- Product consumption feedback to the OrgaTEX stock control module

### Working as dyers like

- Auto-scale-selection based on product quantity
- Applies practical tolerances by scale and product
- Graphical weighing process visualization
- Bucket identification with partial batch tickets printout
- Useful: single products can be weighed independent of batches
- Weighing sequence can be paused on priority jobs
- Weigh large amounts as container – less the excess amount

### Connective

SETEX OptiWeigh is expandable:

- Up to 3 scales are supported
- Link to paternoster units with SECOM controls (option)



► Ergonomic designed housing for PC and equipment

### ► Paternoster

Increase the value of your paternoster with a modern SECOM controller and integration into the OrgaTEX weighing workflow:

- Weighing process drives paternoster product in pick position
- Product identification by barcode
- Weighing sequence waits for paternoster confirmation



# Dye Kitchen Systems

**OrgaTEX performs dyeing and dispensing process in sync**

The phrase "savings on chemicals" is often used with centralized dye kitchen systems. Most likely these systems will not fulfill the expectations if they are used as isolated applications. Extended time and efforts for recipe administration, supply disruption and manual operation cause inefficiency and bad reproducibility.

## Intelligent networking with different dispensing system techniques

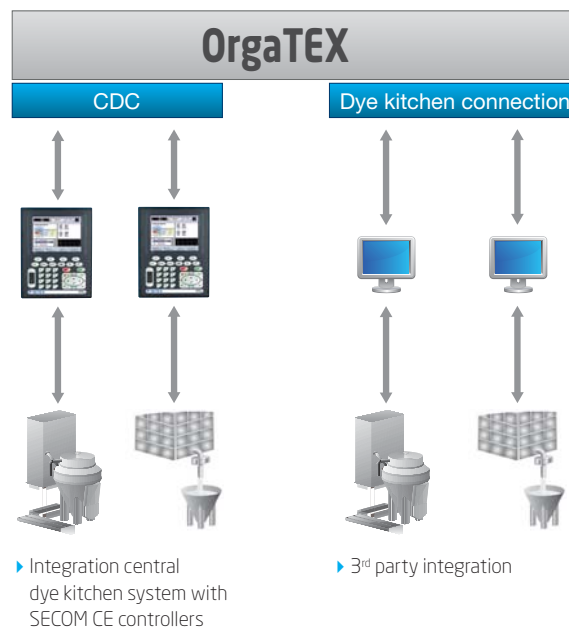
OrgaTEX takes care that automatic dispensing and supply systems work perfect in sync with the dye process. Dye machine controllers receive software extensions to implement an intelligent real-time communication between the systems. The logistics for charge-tanks and preparation-tanks provide "look ahead" and "batch overlapping" features for dye lot preparations.

Perform preparation calls in different ways:

- Via SETEX controls on the production machine
- With a dyeing department request terminal
- By manual activation in the **OrgaTEX Batch Scheduler**

## Features

- Providing dye kitchen system preparation data (product, quantity, target tank and request time)
- Exact product consumption feedback for stock control
- Synchronize error messages between dye kitchen system and production machines
- Production additions priority handling by OrgaTEX and dye kitchen system





# CDC – Central Dye Kitchen Control

## Station manager for dispensing and dissolving systems on just ONE platform

The **OrgaTEX CDC** module perfects automatic capacity utilization control, individual generated dissolving procedures and a close connection to dyeing machine programs. This simplifies day-to-day business and increases the throughput.

### Capacity utilization

The intelligent real-time communication between SETEX control systems installed in central dye kitchens and dyeing machines can request products from the dispensing system as soon as the addition tank is empty – no matter if scheduled for the actual or next process.

### Priority management

Time critical additions for dyeing machines or manual requests are prioritized automatically and the remaining time until inject/dispensing is displayed.

Additionally, calls for chemicals/dyestuffs can be split and handled on several dispensing stations in order to optimize the utilization of the facility. With the integrated “cross-link” manager, delays can be avoided in case of maintenance or machine downtimes.

### Instant feedback

**CDC** shows the status of all preparations online and provides various solutions to avoid production process delays.

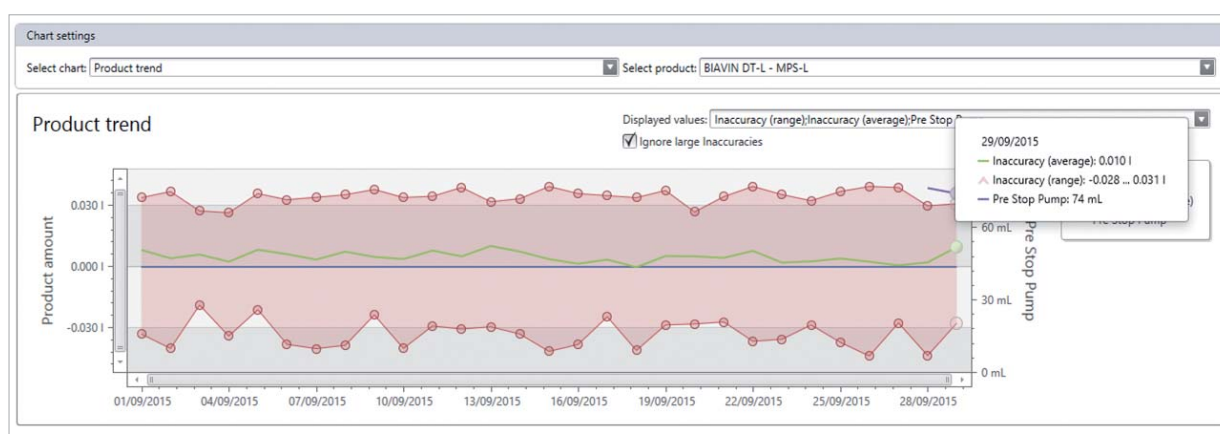
In case of a preparation process malfunction, e.g. supply tank runs out of chemical, the enhanced functionality of **CDC** can adjust the running batch program in the dyeing machine to display and allow manual intervention.

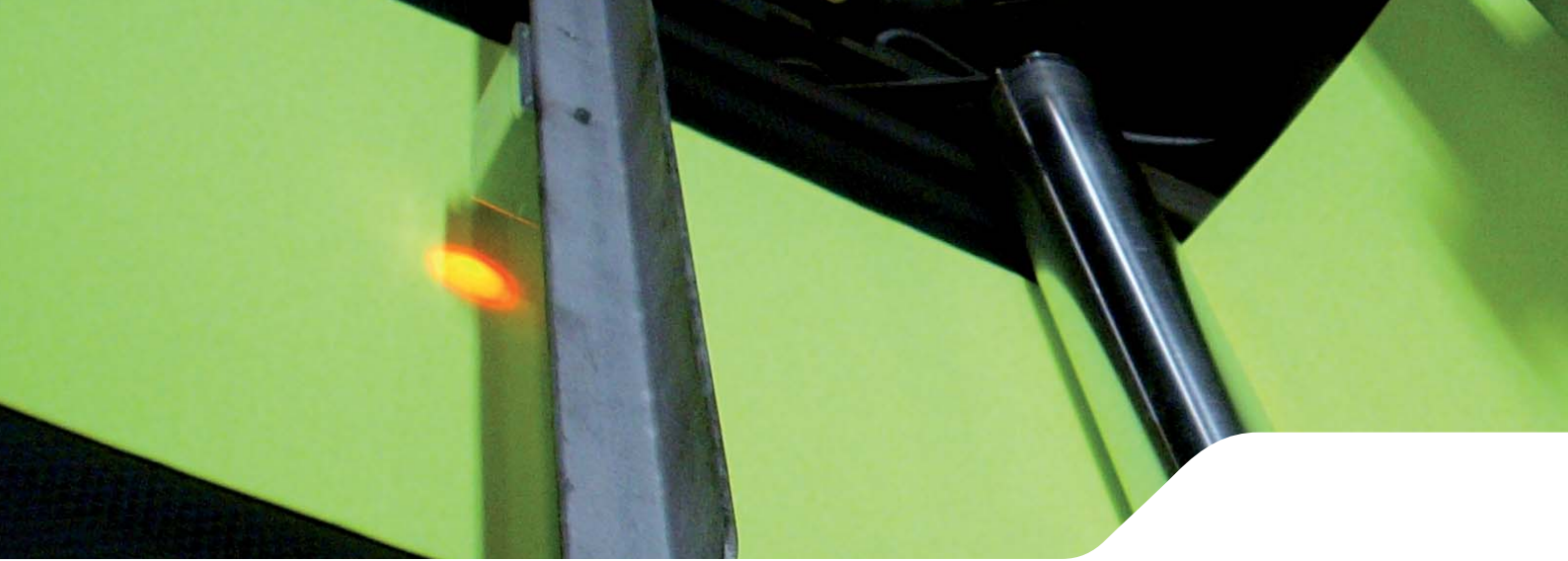
### Equipment optimization

OEE down to the valve: Easy improvement of process precision by controlling the accuracy of the dispensing valve (tolerance band) and use of the “auto-tune” dispensing feature.

### Features

- Automatic composing of dissolving programs
- Priority assignment of preparation processes
- Automatic priority scheduling for additions
- Equipment effectiveness control
- Detailed malfunction alarm indication
- Configurable emergency handling
- Tank administration and safeguard to prevent contamination
- Dispensing history and reports





# Finishing Department

## From traditional finishing to automatic guided and controlled manufacturing

Grouping the experience of SETEX and textile finishing machines manufacturers together, optimizes the throughput, records and reports production and saves know-how.

### State of the art communication

Regardless if ODBC, OPC or other integration techniques, OrgaTEX holds with the finishing machine configuration the necessary parameter tags. Set values, actual values, alarms, control variables and batch data are shared with the machine PLC.

### Process control

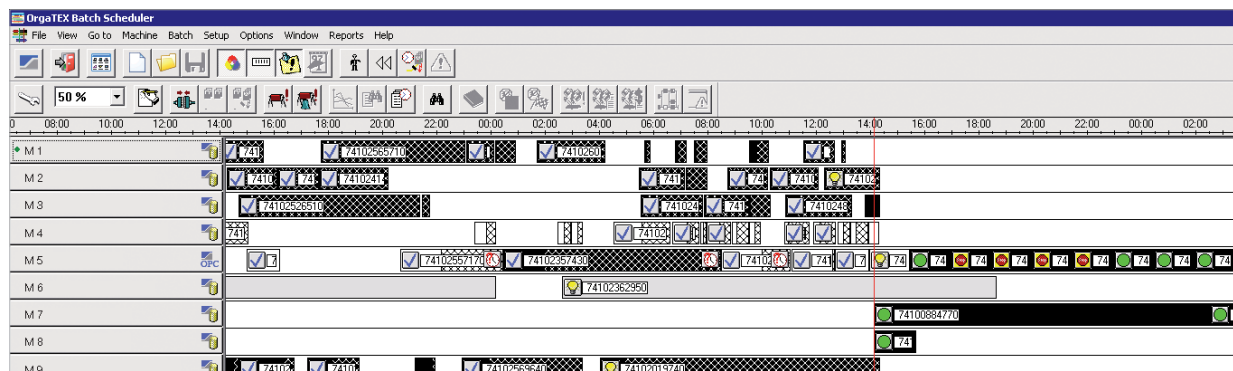
OrgaTEX provides an editor for continuous machines, designed to create and manage preparation sets for a large number of article specific machine settings. The user interface is on customer preference, either as compact table or as graphical visualization similar to the machine controller.

### Features

- Graphical and tabular editor
- Machine parameters selected, synchronized, controlled
- Teach-in functionality

### Production scheduling

The graphical planning board delivers an authentic situation of all finishing machines (e.g. machine status, maintenance) in real-time. For informed decisions in day-to-day activities, all processes are linked with the real-time planning and available at one mouse-click, e.g. production recipe, dye lot cost, dye lot history...



► Batch scheduler



## Features

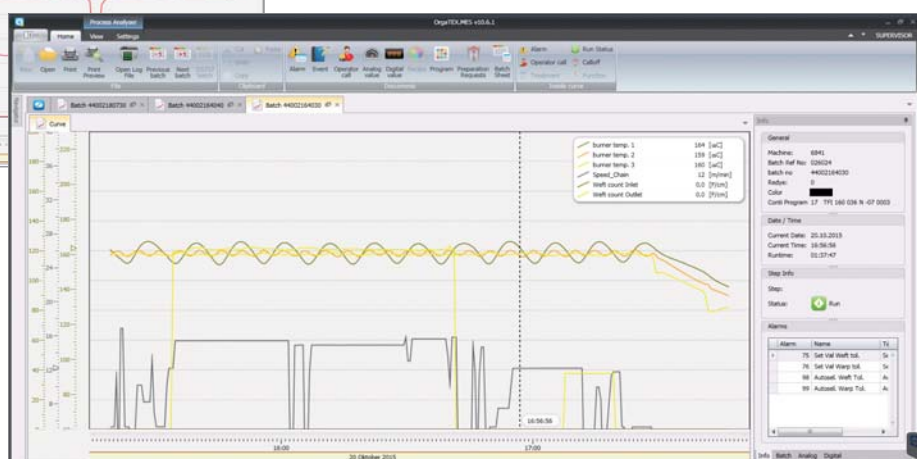
- Batch management
- Automatic set time calculation
- Drag and drop batch arrangement
- Deadline monitoring
- Preparation call to central dispensing system
- Optional: production downtimes visualization

## Production monitoring

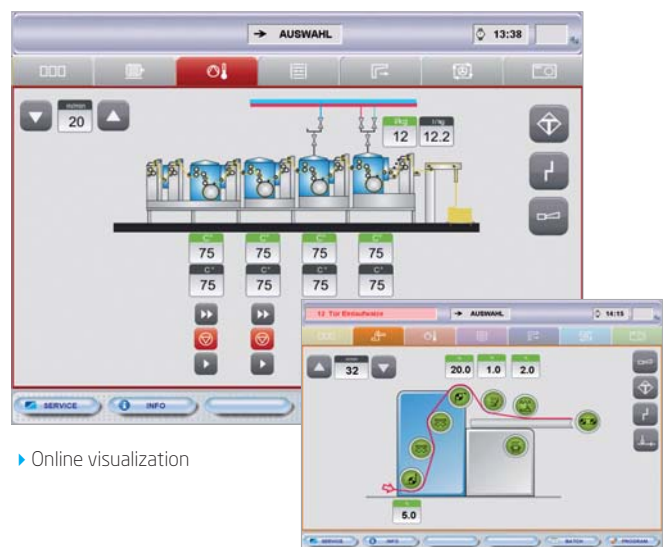
**OrgaTEX Online Supervision** is the real-time information of your running production, presented in an interactive window on your office desktop. A graphical visualization of machines, process values and batch data allow to visualize, control and adapt every single process step of the machine environment.



► Process analyzer



► Analyzing of process history



► Online visualization

## Features

- Display of actual process and machine data (tabular and graphically)
- Correction of process parameters
- Manual intervention in case of unforeseen events
- Alarm information
- Online-analysis of process data
- Alarm processing





# Energy Management

## Made-to-measure energy-flexible production

Traditional energy management systems support textile finishing companies in reporting consumptions and assist for consideration about investments.

The **OrgaTEX Energy Management** system goes far beyond the simple logging of energy consumption. Moreover, several applications permit an immediate adaption of the production related energy demand, related with the availability of electricity, gas, compressed air and steam. In short: It makes active process adjustments to balance energy loads.

### Comprehensive approach

The **OrgaTEX Energy Management** solution contains online machine data as part of the energy values and therefore support parts of the ISO 50001 requirements.

Individual solutions will be projected according to the desired energy related need of action. The methods used to control and optimize the energy usage can integrate actively the boilers, the dye house, the finishing department and the wastewater treatment. SETEX controllers monitor consumptions, temperatures, levels, pressure and other machine parameters, and control additional equipment like heat recovery and hot water management.

### 3 degrees of influence

SETEX has comprehensive knowledge in controlling relevant energy influencing factors in production. To

become more energy efficient, the **OrgaTEX Energy Management** is able to adapt actively production processes in several levels:

1. In real-time on the controller/PLC of the machine
2. As central energy control terminal of a department
3. Function comprehensive **OrgaTEX Energy Management** modules



► Energy control terminal



## Avoiding electricity and gas peaks

An energy management system is efficient, when electricity and gas peaks are reported before they happen. OrgaTEX monitors individual and total energy consumption in real-time, and arranges alternative processes at the same moment, as the anticipating algorithm predicts an upcoming energy peak.

Alarm messages will be shown, energy intensive program steps will be modified, the start of additional machines will be prevented.

## Steam management

The highest efficiency of steam-generators is at a specific steam pressure rate. The OrgaTEX steam management solution allows balancing the steam consumption to avoid generator ups and downs. The SETEX solution adjusts process parameters (e.g. heating a stock tank, avoid machine heating in “non

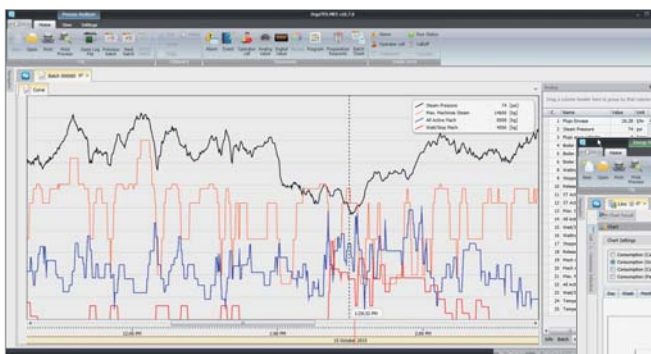
critical steps”) according to priority and importance of action. The deeply integrated connection down to the machine PLC level permits interventions that cannot be realized manually.

## Water management

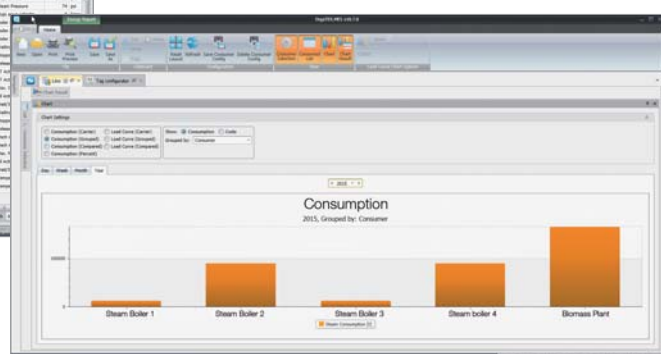
In times of dyeing machines with very low liquor ratio and other water saving challenges, OrgaTEX assists to run processes that require less thermal energy, less electrical energy and less cooling water.

Keeping fill-levels and temperatures of machines and tanks controlled, the SETEX solution provides optimization features for various scenarios:

- Precise temperature of supplied stock water is synchronized with machine heating actions.
- Automatic selection of water type depending on availability and priority management
- Cooling with warm water depending on customer rules (with process adjustments)

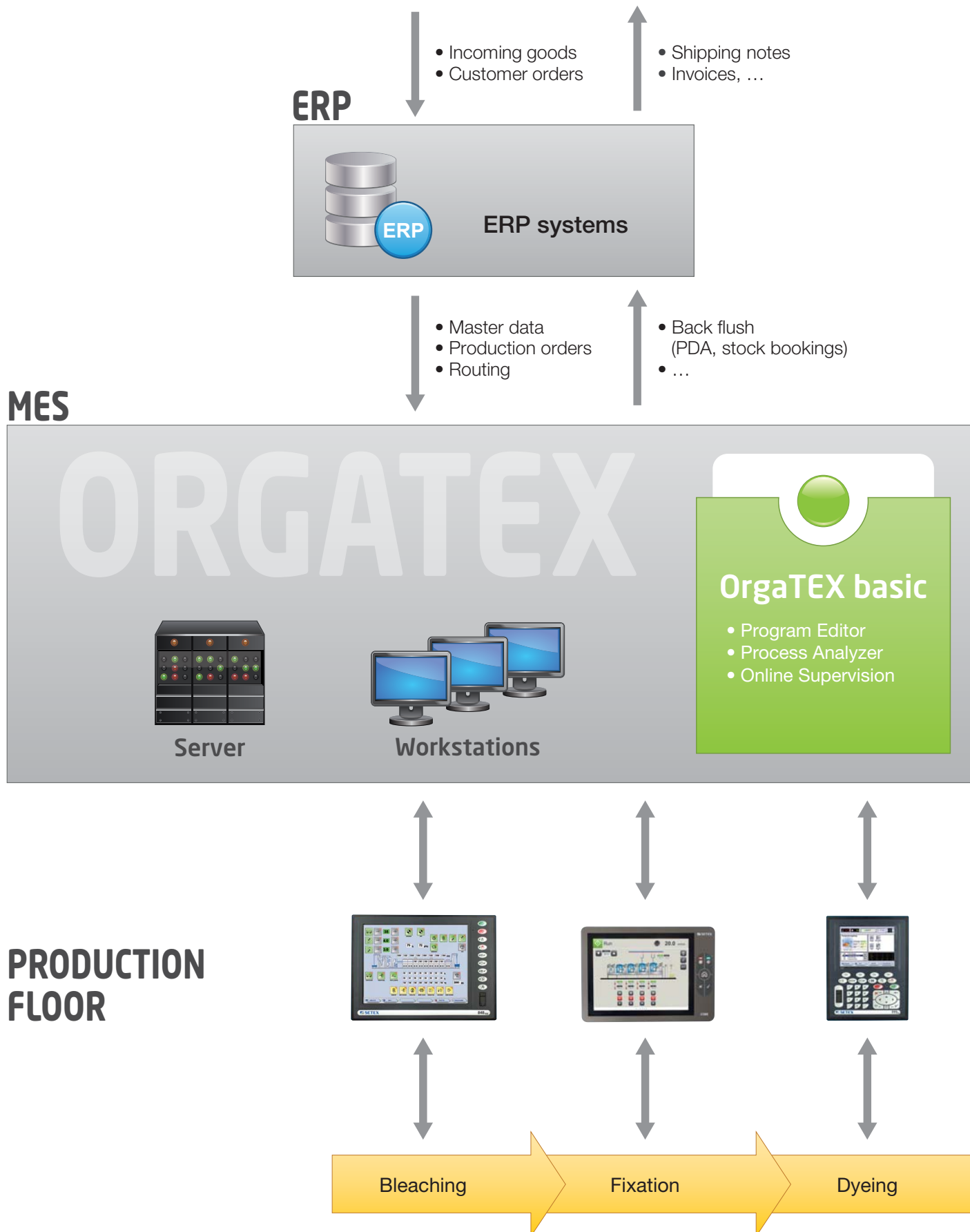


► Steam pressure, flow and machine waiting chart



► Steam consumption/utilities

# System Landscape





## LABORATORY

### Datacolor

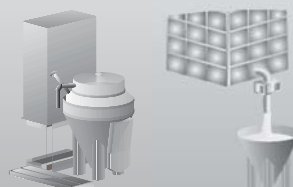
#### Lab recipe

- Quality
- Colorants
- Process



## DYE KITCHEN SYSTEMS

- Paternoster
- Weighing
- Dissolving
- Dispensing
- ...



## OrgaTEX professional

- Program Editor
- Process Analyzer
- Online Supervision
- Batch Scheduler
- Production Calendar
- Batch Report
- Alarm/Event Report
- Machine Report
- Root Data Management

## Optional

- PDA Production Downtimes
- Production Recipe
- Stock Management
- Lab2Bulk
- Formula Wizard
- Energy Management
- Weighing
- Paternoster
- ...

### 3rd Party service adapter

OPC

ODBC



Service adapter



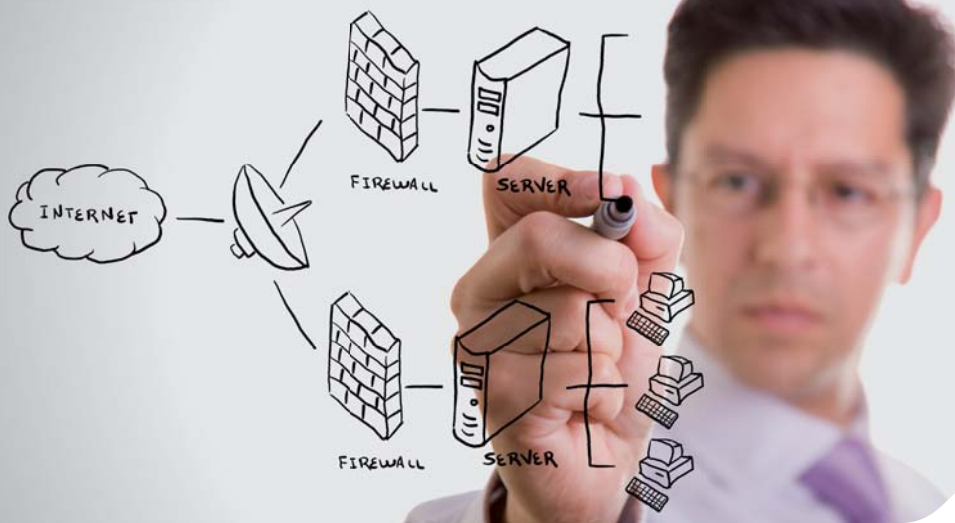
Dyeing

Drying

Sanforizing

Compacting

Material flow



# OrgaTEX – IT strategies

**Clustering, virtualization and terminal services architecture - OrgaTEX supports useful performance and safety environments.**

Expensive production downtimes require preventive methods to bridge system failures (failover), to generally improve the IT service (virtualization) and to simplify the management of applications and computers (terminal server).

## Server virtualization

OrgaTEX supports server virtualization in order to help companies to benefit from better hardware utilization, easier and faster recovery and ease of management.

Additional benefits like external data storage and fast migration to a new hardware are also advantageous in the textile finishing area, as well as the decrease the operating costs (energy, space, air condition).

OrgaTEX in connection with SECOM CE controllers is tested and released for most virtualization platforms:

- VMWare vSphere Server
- Microsoft Hyper-V Server
- Citrix XenServer

## Failover cluster systems

Industrial production with a high degree of automation and integration is requiring continuous IT availability and a high degree of reliability. With high availability systems (HA) realized by using redundant cluster systems, the production machines controllers will not even notice when OrgaTEX has switched to another resource.

## OrgaTEX provides

- Prepared for failover cluster systems
- Seamless (real-time) failover
- Resource configuration for database services, shared drives and background services, to allow a switchover on all cluster nodes

## Terminal server architecture
























The central access to software and services via terminal server functionality can be useful for simple installation and software updates of OrgaTEX, without the need to address complex distribution mechanisms in the company.

## Advantages

- Easier external access (Internet/WAN remote client)
- Better virus protection
- Easy updates – only one instance of the software is maintained
- Every terminal provides full software capabilities
- Time saving administration by using a centralized concept

# Overview

## OrgaTEX basic - OrgaTEX professional

Functions	basic	professional
 <b>Dyehouse Production</b>		
 Program Editor	●	●
 Process Analyzer	●	●
 Online Supervision	●	●
 Batch Scheduler	—	●
 Production Calendar	—	●
 Batch Report	—	●
 Alarm and Event Report	—	●
 Machine Report	—	●
 <b>Root Data Management</b>	—	●
 <b>PDA Production Downtimes</b>	—	●
 <b>Production Recipe</b>	—	●
 Stock Management	—	●
 Formula Wizard	—	●
 Lab2Bulk (color matching interface)	—	●
 <b>Energy Management</b>	—	●
 <b>Weighing</b>	—	●
 Paternoster	—	●
 <b>Interface to Dye Kitchen Systems</b>	—	●
 <b>CDC - Central Dye Kitchen Control</b>	—	●
 <b>Interface ERP/PPS</b>	—	●
 <b>Interface Continuous Machines</b>	—	●
 <b>Continuous Production</b>	●	●

— = not available, ● = included in OrgaTEX basic, when used as single PC setup, ● = included in OrgaTEX professional, ● = optional





- ▲ Headquarter
- Subsidiaries

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