

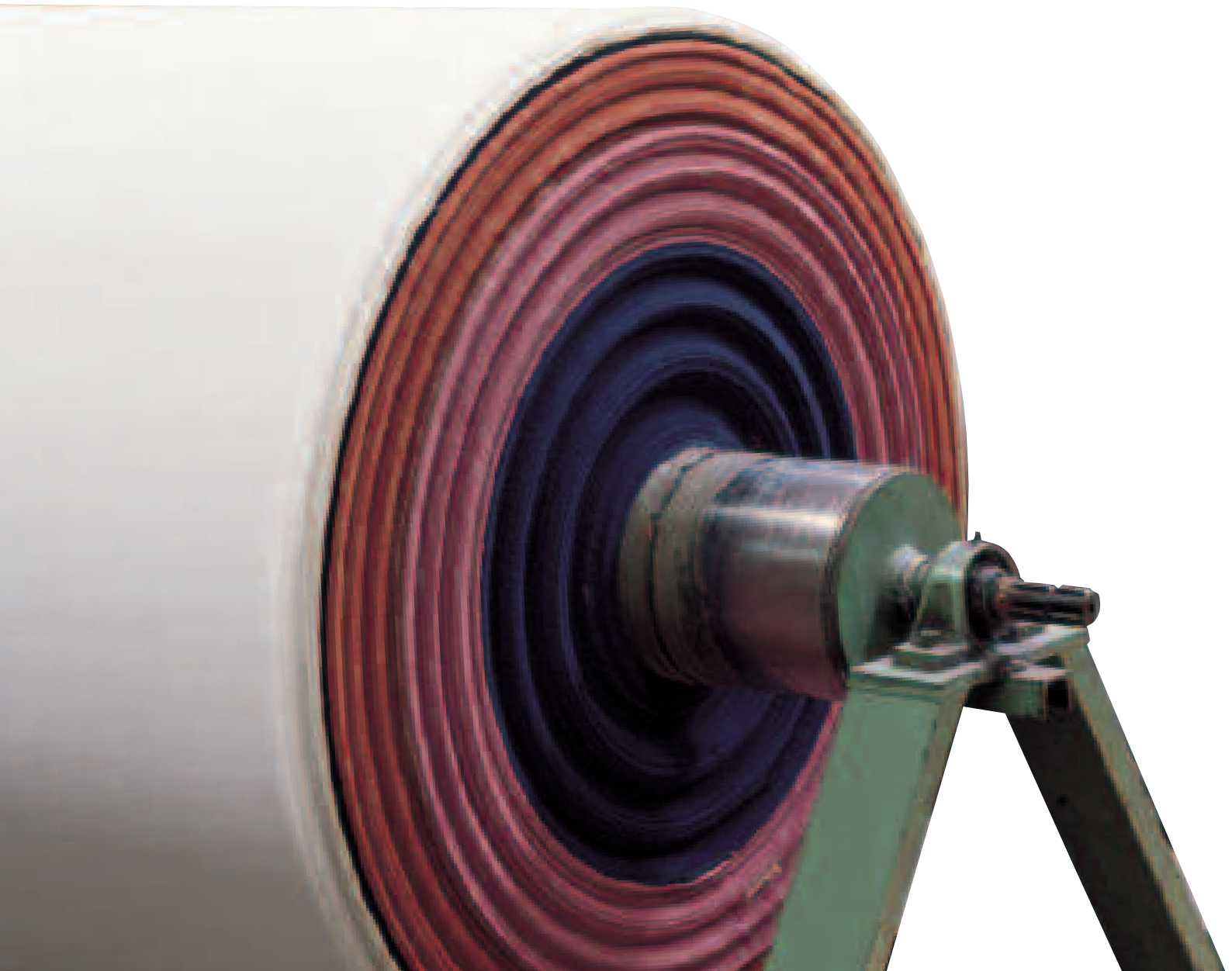
Top-Dye

One of the most demanding operations of all productive processes is the creation of new colors and the reproduction of colors that already exist either in nature or on various types of support. This is particularly true in the case of textile production.

In the past, the various colorings of clothing differentiated the social classes or defined the role of an individual in society. Nowadays, color is one of the most important elements distinguishing a product of FASHION.

Today, color characterizes a product and designates it in terms of (a) its correspondence or suitability, (b) the main requirements for conformity with the requested color and (c) the quality control measures taken by a company and the market as a whole.

The measurement and certification of a color are currently indispensable elements for any company wishing to remain active in the international market while maintaining a high level of quality and a professional and distinguished image.



This new colorimetry software represents one of the most important breakthroughs in recent years in the world of colorimetric calculation. Based on their experience over the past 20 years in the creation of applications for the international textile sector, our technicians and mathematicians have created the new mathematical-scientific basis that has allowed us to produce a much more highly advanced system, in terms of the actual performance that Top-Dye is capable of providing.

Top-Dye is also exceptional for its simplicity of use, its interface with the operator and for its ease of entry into everyday work situations - even for people who have had no particular computer training. In the design and production of Top-Dye enormous consideration has been given to the working methods of the color-matcher and to the technical requirements of the textile sector into which this new product will have to be introduced.

A vast number of options have therefore been introduced into Top-Dye which allow the color-matcher to set up the conditions and give precise directions so that the formulation of the color may correspond as precisely as possible to the application requirements.

Some important options are the capacities to:

- impose limits on the usage of one or more dyes with the possibility of establishing the minimum or maximum quantity of usage;
- set a certain fixed quantity of a dye for the formulation;
- adjust the ΔL , ΔC and ΔH settings of the formulation with respect to the settings of the standard color to be reproduced;
- make a choice concerning the illuminant evaluation;
- use these and other elements needed in selecting the best application conditions.



Top-Dye in production

For many years now the Intex System Color Matching systems have been used in directly formulating or correcting colors in production.

Many respected companies, whose products have high qualitative requirements in terms of color precision, have found the optimum solution to their problems through the use of the colorimetric systems for production that were designed and developed by us.

Top-Dye is designed and manufactured to operate within the production process in such a way as to bring enormous new benefits to the output and quality of your production.

Integrated Top-Dye

Top-Dye has been designed and manufactured to fit in with the vast number of market requirements that have emerged over the years. We have developed Top-Dye so that as a color matching system it does not remain an isolated entity within the company, but rather so that it may integrate in a two-way manner - transmitting and receiving information to and from the other devices within the company and to/from the outside world.

Integrated Top-Dye

- The system operates in the Nouvell network with Btrieve files.

These two elements guarantee maximum standardization and integration.

- The system accepts data and color files coming from coloring houses and from other installations.

- The system transmits the formulas to the automatic laboratory dosing systems. It interfaces with the measuring stations via modem both within and outside the company. It functions as a colorimetric database with various instruments or color measuring stations.

- The software is open to any further developments and/or integrations, with the full collaboration of Intex System.

The elements that make up the Top-Dye

1) The computer

This is the basic instrument involved in carrying out the mathematical and scientific processing of the color. It stores the various pieces of data and interfaces with the different measuring instruments.

2) Spectrophotometer

This is the color measuring instrument that transforms a chromatic impression perceived by the human eye into a numeric combination called a reflection or transmission curve, as shown in the example.

Color measurements made by the spectrophotometer normally operate within the range of the visible spectrum (400-700 nm). The measurement intervals that are normally used range from 10 to 20 nm.

The Top-Dye software

The colorimetric calculation replaces the personal visual method of the color-matcher in order to create the color formulas and to allow perfect sampling.



Preparing the color file

Information on a single dye is transferred to the computer and software by means of a series of samplings at different concentrations for each individual dye.

Top-Dye can operate at concentrations that vary both in terms of quantity and number (from a minimum of 3 to a maximum of 10).

The reading by means of spectrophotometer generates the reflectance curves for each individual dye, which will then be saved and stored in the color file. For each dye, a series of additional pieces of information are also stored, such as the solidity, the price, the supplier, the color index and so forth. These pieces of information will later be used to provide a series of data on the calculated and proposed formula.

(Example: Calculation of the solidity of the formulas).

Formulation of the color to be reproduced

To color to be reproduced is read by means of the spectrophotometer and is stored in the file of standard colors. With these elements the Top-Dye is capable of processing all the possible and valid combinations that stem from the colorimetric calculation.

Top-Dye

The system is designed so as to automatically carry out the calculation of the formulas in trichromy or quadrichromy.

The choice of the dyes to use in carrying out the search for the optimum solution formula may be made by involving all the dyes of the Color File or alternatively with some axes selection made by the expert dyeing technician.

Formulation proposal

The best proposals obtained are proposed by the system according to their classification: by price, metamerism, solidity and other elements that are useful in selecting the current formula in the context of the specific dyeing requirements.

The system also demonstrates the formula that has the best qualitative ratio between the various evaluation parameters.

Application and correction

The chosen formula is experimentally evaluated in the laboratory by means of a sample dye or is directly applied in production with appropriate adjustments. In the event that a difference in color is noted which is not acceptable, use of the correcting function will be required which may apply to the laboratory formula or the production bath.

Quality control and color differences

This operation is of fundamental importance when one wishes to avoid continuing doubt about the precision of the reproduction with respect to the dye sample. The system, through the use of appropriate calculation formulas and the imposing of appropriate

tolerances, assures the quality of the reproduction from a color point of view. The most used formulas present in the system are CIELab and CMC in the 1:1 and 2:1 version.

The graphics display points out the evaluation from the visual point of view and in so doing permits a certificate of quality conforming to international standards to be printed.

Obviously, the functions of the Intex System Top-Dye system are not limited to those described above. It also houses a complete software library which allows practically all aspects and problems relating to the measurement and calculation of color to be solved: aspects such as the degree of whiteness, the division into lots, the search for the closest formula, the calculation of the dye yield, etc.

The advantages of Top-Dye

Using the Top-Dye system brings so many advantages that the cost of the installation may be recuperated in an extremely short time period. Some of the advantages that all the companies who have used the system have obtained are as follows:

- reduction in the time required for sampling new colors;
- reduction to a single correction for all the dyes;
- reduction in formula costs of at least 10%;
- control and reduction of problems caused by metamerism;
- constant and objective monitoring of the color differences;

- reduction in the number of dyes to be stored in the warehouse;
- selection of the best dyes and their easy replacement.

Top-Dye applications

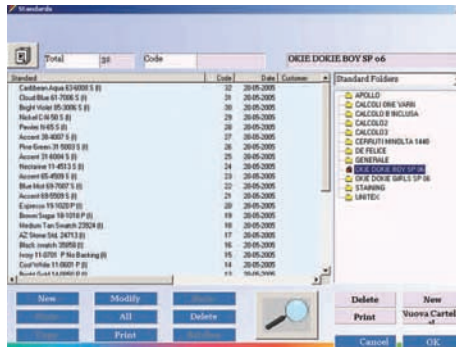
Companies that may benefit from the use of the Top-Dye system are:

- dye-houses that dye flock
- dye-houses that dye hank wound yarns
- dye-houses that dye bobbin wound yarns
- dye-houses that dye continuous or discontinuous textiles
- laboratories providing color formulation services
- schools or textile specialization centres
- and all those companies, not mentioned here, that need to create dye formulas in order to color absorbent materials.

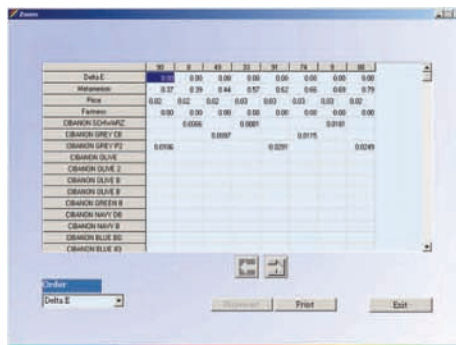




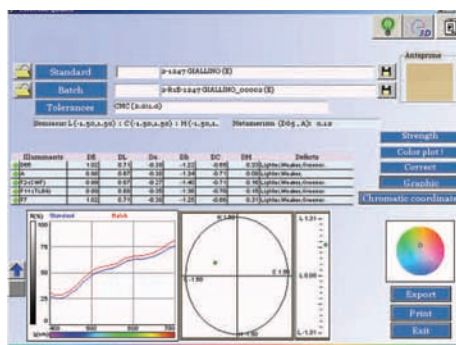
MAIN MENU'



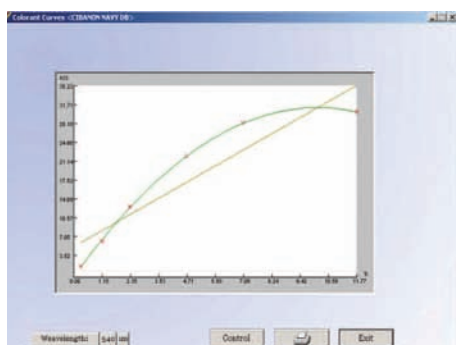
SAMPLES MANAGEMENT



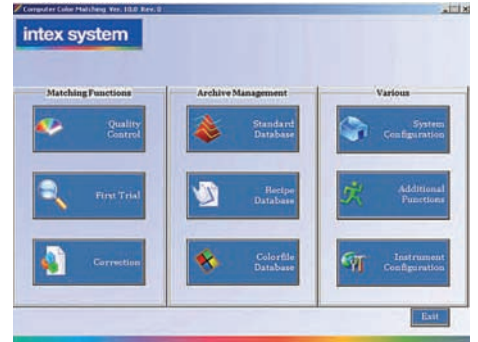
BEST FORMULAE LIST



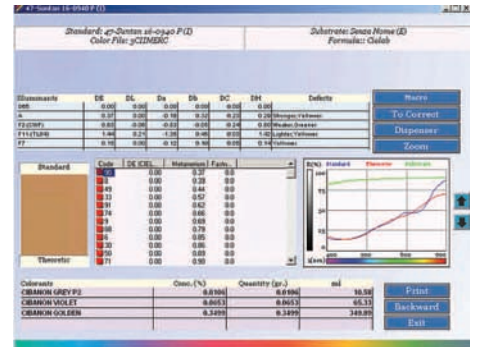
QUALITY CONTROL



K/S PLOT VS CONCENTRATION



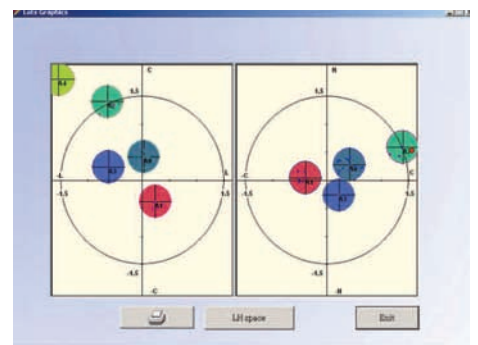
MENU'



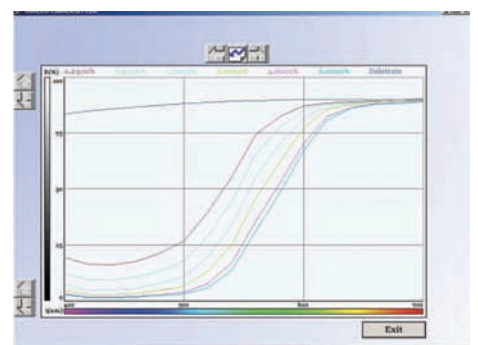
FIRST TRIAL



CORRECTION



LOST FORMATION VIEW



COLOR FILE REFLECTANCE CURVES



Top-Dye

Why Intex System?

- Because both the Top-Dye calculation formulas and the software philosophy, as created by Intex System originate from a profound knowledge of the complexities of dyeing. The original "non linear" calculation technique, which was developed to formulate the dyeing formulas, has the capacity to provide excellent results even when particularly complex dyeing methods are involved. This high reliability on first formulation, combined with an especially effective correction calculation, has provided the possibility of using Top-Dye directly in production.
- Because Intex System has also distinguished itself through its innovative system of calculation and monitoring in the field of instrumental quality control over color. This system, which replaces the average error (ΔE) (used as a tolerance factor) with a tolerance volume, has the capacity to adapt itself to the specific quality control requirements of each company. The system simplifies the process of communication between companies because it is based on the universally recognised CieLab and CMC formulas.
- Because the high level of interaction between company and system, between dyeing technique and colorimetry, requires that the company acquiring a Top-Dye system have the support of a team of specialists who have to transmit the correct operational skills to the dyeing technician who is to use

the Top-Dye system. For this very reason, Intex System has created a widespread and efficient assistance network, formed exclusively of dyeing technicians who are experts in colorimetry.

- Because Intex System is a company that was founded in order to respond to the organizational requirements of textile companies and for twenty years has been creating software specifically designed for the textile sector. Furthermore, in addition to the extraordinarily effective Top-Dye software, it has also developed a structure of programs and machines entitled the Integrated Color Line, which allows a complete and integrated management of data relating to textile companies.

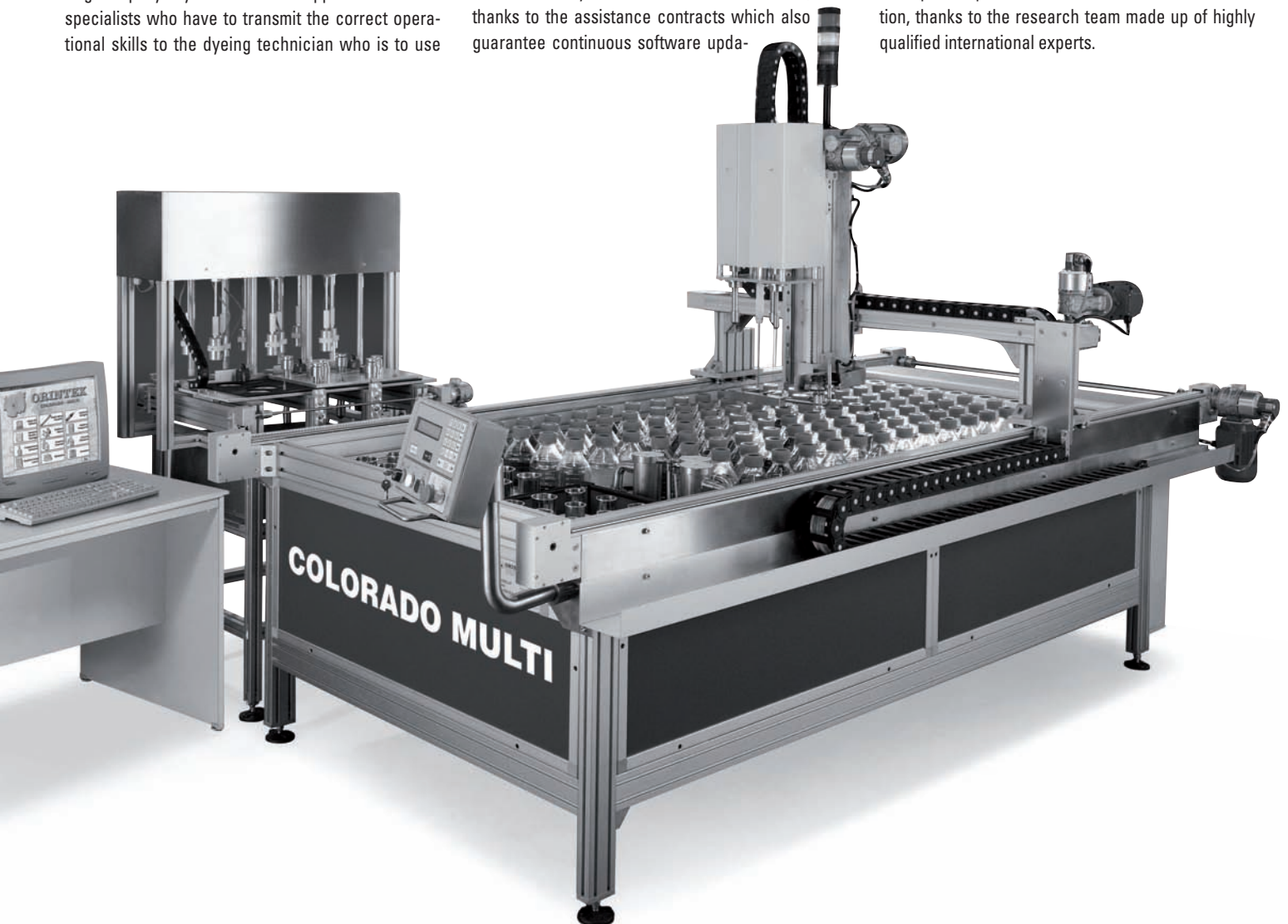
- Because Intex System selects the best spectrophotometers available on the market and the computers that are most suitable for each installation.

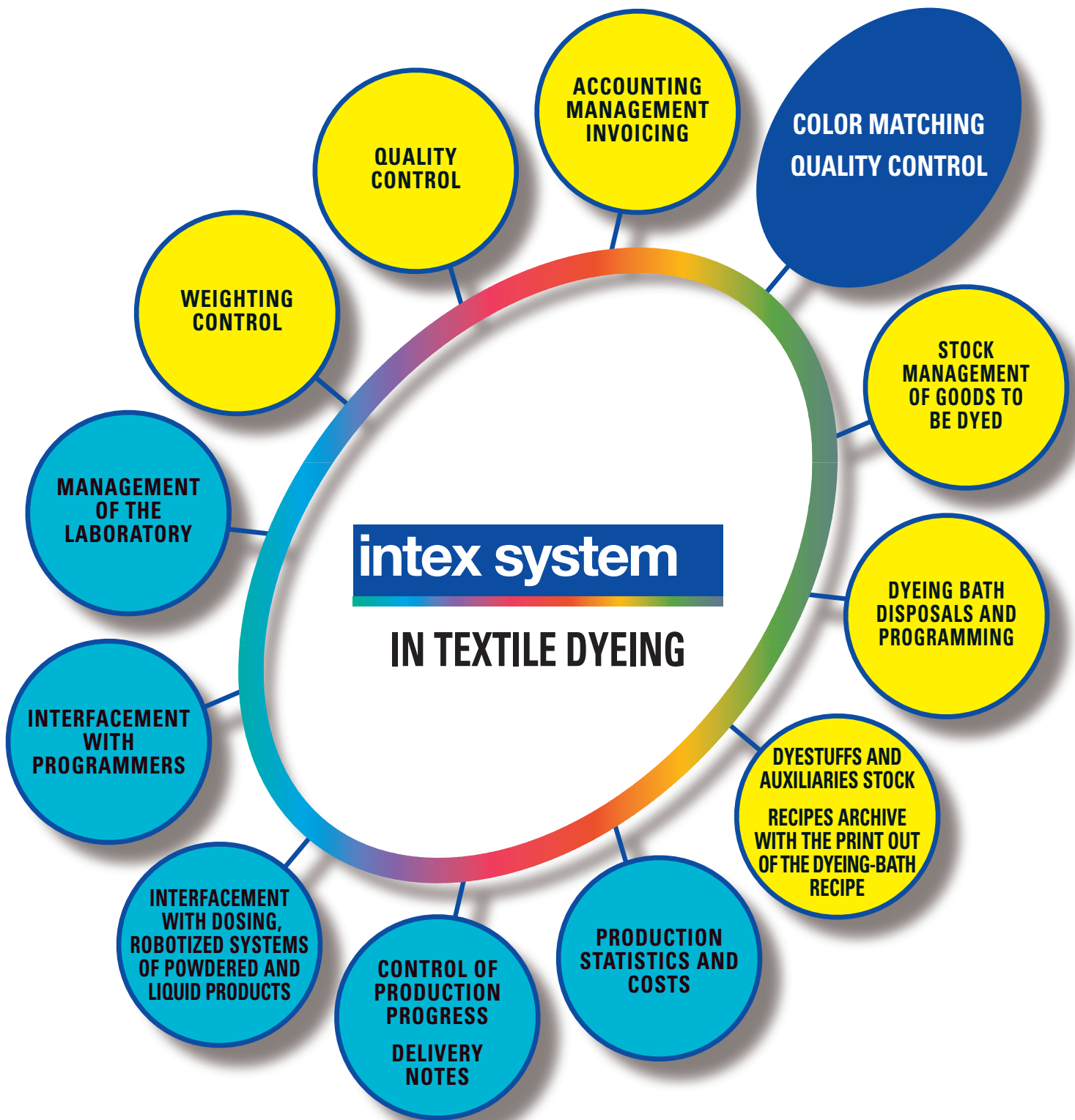
The safe result formula

The Intex System proposal includes not only the Top-Dye system but also the installation services and a highly qualified and effective training, allowing the company to achieve positive results and complete usage of the system in a very brief time period. The type of assistance that Intex System provides to its clients may also extend itself over time, thanks to the assistance contracts which also guarantee continuous software upda-



tes so that the system may remain up-to-date and efficient. The Intex System structure also allows precise solutions to be found to even the most complex and specific problems in the field of color calculation, thanks to the research team made up of highly qualified international experts.







intex system

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Formula calculation and
correction of new colors for
the dyeing textile products.

