KSM

solutions for your cutting problems

NESTMASTER

Expert of nesting systems

BLOCK DIAGRAM

KSM

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KSM MIND LAST last scanner

Digitization scanning

Stand of photo digitization

KSM MIND 3D

KSM FootwearCAD 2D

Import: Gerber, lectra, Humantec, Teseo AutoCad etc.

KSM MiniPDS

KSM MIND Viewer Photos in directories

Printing or cutting elements

CalcMaster calculation

CutStatistic

NestMaster

- errand creation
- projection + manual nesting
- textile auto nesting
- leather auto nesting
- cutting simulation

Sorting Manager Picking elements

Camera material photo detection e.g. leather

PlotManager

KSM ZUND 2 XL 3000 Leather

KSM ZUND L 1200 Textile

KSM ZUND LC 2400 Optima Footwear

KSM ZUND G3

External nesting table

www.zund.pl

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NestMaster is an innovative program for nesting. Thanks to its versatility, it can be used in many different industries such as: furniture, automotive, composites, textiles or technical textiles, leather wares, gaskets, advertising balloons, parachutes and more.

As a result of properly configuration, it surprises with many functions that are essential for working with materials in any branches. NestMaster offers the creation of markers using an interactive and automatic nesting of elements on desired material. An interactive nesting application, based on digital projection makes templates visible and accurately nested on the material. Another advantages of NestMaster are: ease of detection leather defects and permanence of directionality of nested elements. All of this features allows cut perfectly-shaped elements and minimize area of non--used material.

The algorithms used for process of automatic nesting are the best solutions available on the market. As opposed to rolled materials, full-hide leathers requires an individual algorithm of nesting. NestMaster can be equipped with additional algorithm for leather, called Autonest Leather or special algorithm for rolled materials – Autonest Textile.

What NestMaster offers:

- defining of a schedule while creating a new markers;

- manual definition of the amount of models/components for the plan or automatic import of these information from other databases;

# NESTMASTER

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- adjustment of nesting parameters such as: size of the material, terms of rotation, amount of elements in the model, buffer between the elements, possibility of cutting on common lines or not and many others;

- possibility of positioning the product above the marker, where colors facilitate the choice of an appropriate model and/or an element to place;

- highly-productive automatic arrangement system of defined plans on the material, which enables fast cutting and minimizes material waste considerably;

- nesting elements on striped materials;

- interactive nesting with the projection of the elements, for precise positioning ones on the material, avoid defects or to use the remaining scraps of material;

- full control over the nested elements to maximize precision of positioning on the material; possibility of any rotation, making mirror images, arranging on the X and Y axis, buffer change etc.;

- verification of the quality of nested markers like length, efficiency of the arrangement or the percentage of the production waste,
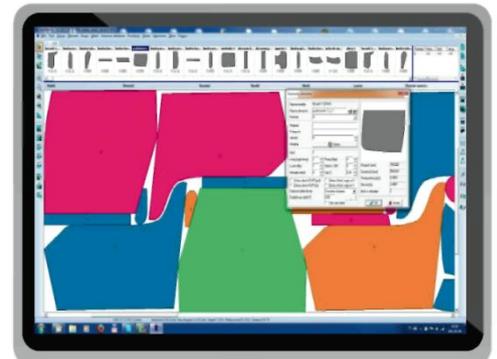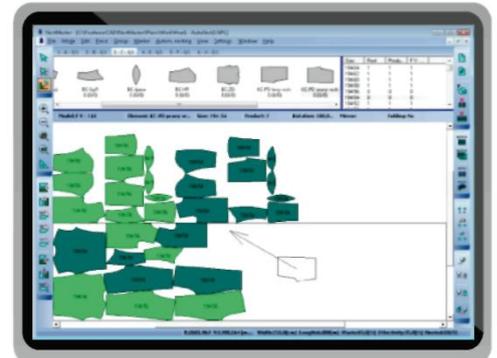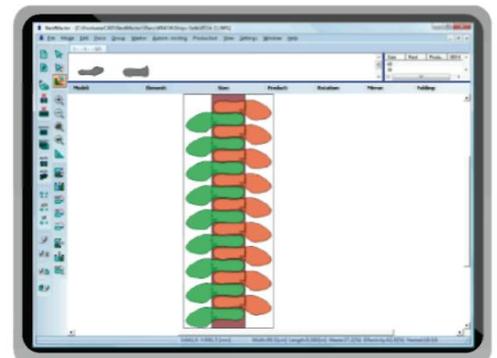
- possibility of working with groups of elements;

- optimizing of the cutting order;

- adjusting parameters of markers individually for each user, such as colors, description of the elements on the screen, tool checklists etc.;

- defining profiles of markers for particular materials, products etc.;

- ability to work with many of markers at the same time, for example automatic nesting of one marker and interactive arrangement of the other one;

- possibility of sending markers to many devices working in a network;

- creating full statistics of work of cutter to have a constant viewing of the efficiency of the device and workers.

The biggest advantage of creating markers using NestMaster is the huge saving of material that reaches up to 5% of cut material and friendly, easy to use interface.

Accessories (MODULES)

IMPORT

This module allows import of elements' templates and markers from most CAD systems available on the market such as: AutoCAD, BrissCAD, Lectra, Gerber, Assyst etc. Models can be imported from standard formats such as DXF, HPGL, ISO, AAMA etc. We can make a special import application for all CAD programs.
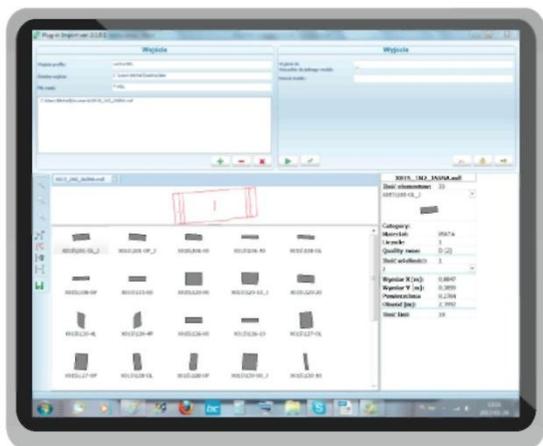

Cutting Simulation

It is a perfect tool for proper planning of the whole production process. It enables to define the time of cutting the marker and to check and change the optimization parameters of the cutting process when necessary. Thanks to this, the risk of cutting out a wrong element and consequently increasing the waste is minimized.

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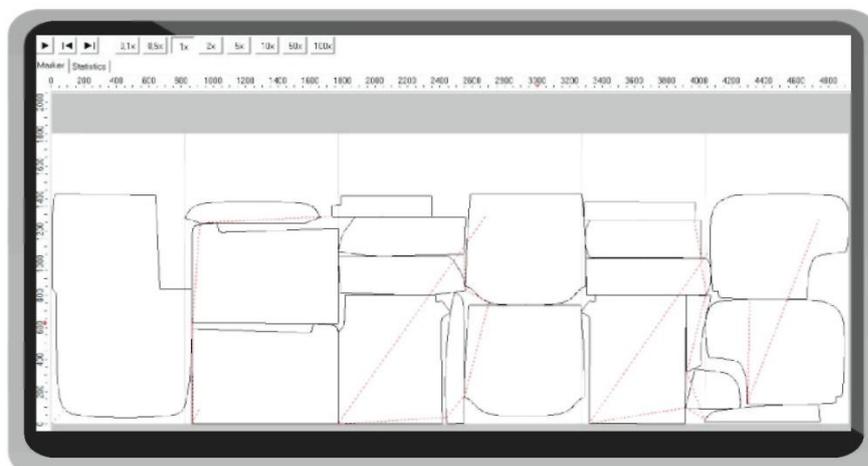
Appliances

1. Footwear
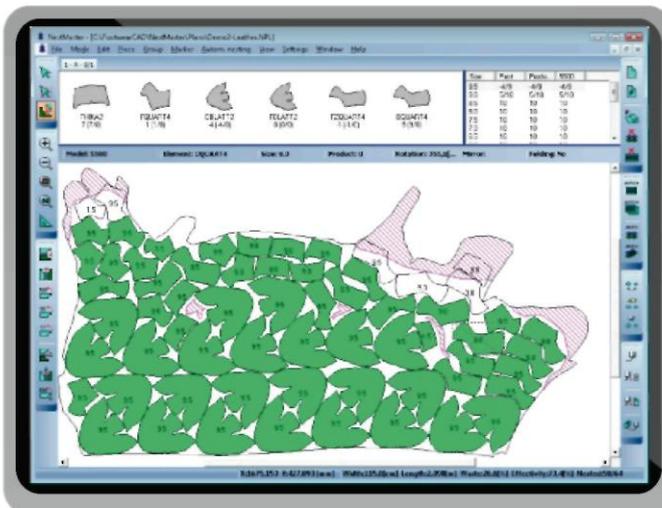
2. Insole
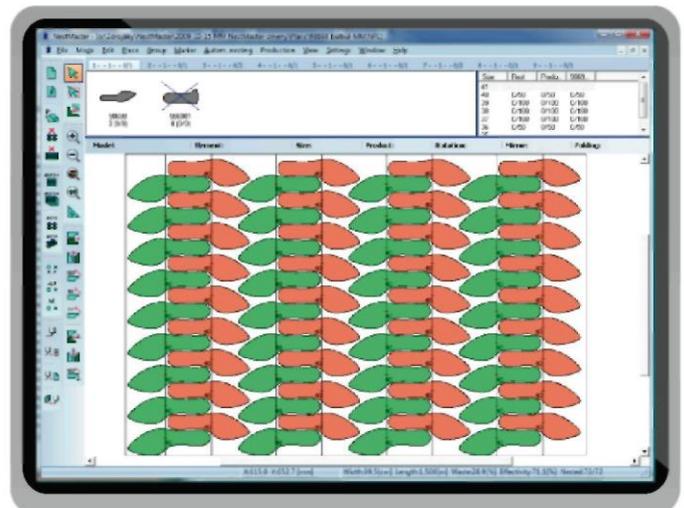


3. Textile furnitures
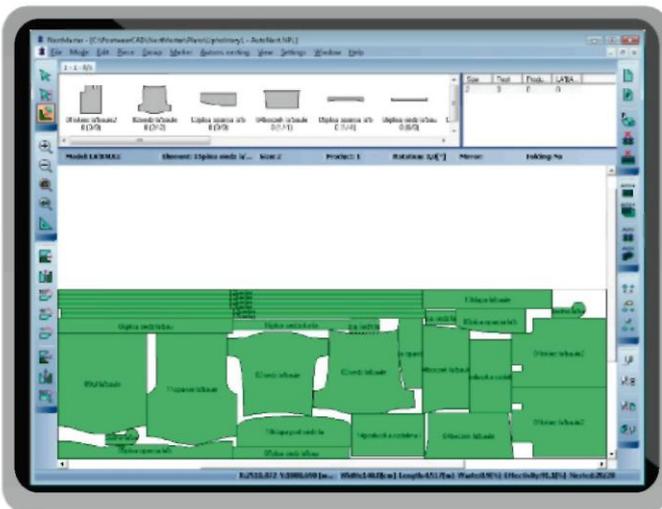
## 4. Leather furnitures
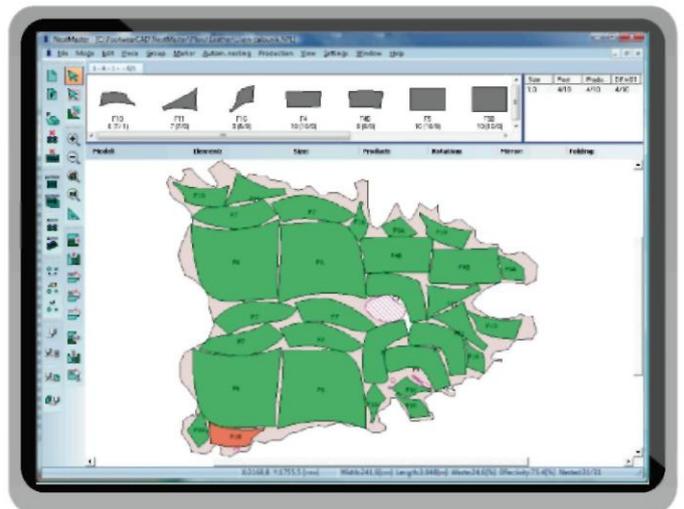
Appliances

## 5. Automotive
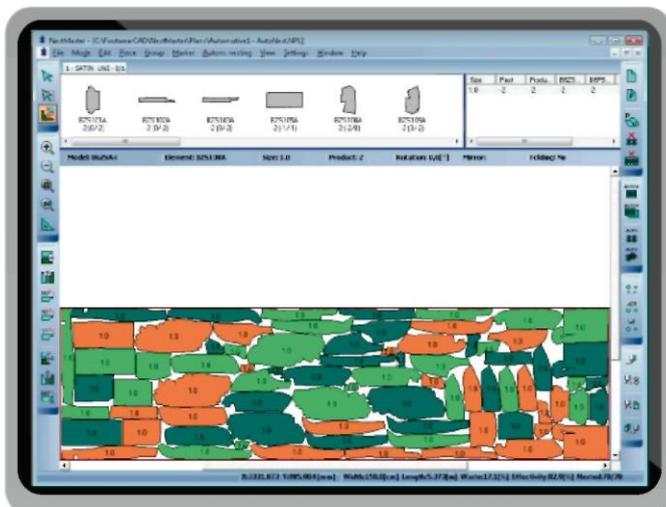
6. Gaskets
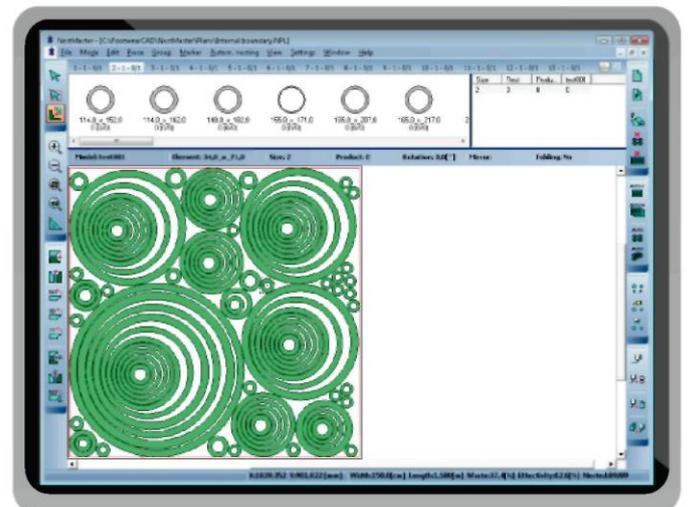
7. Garments
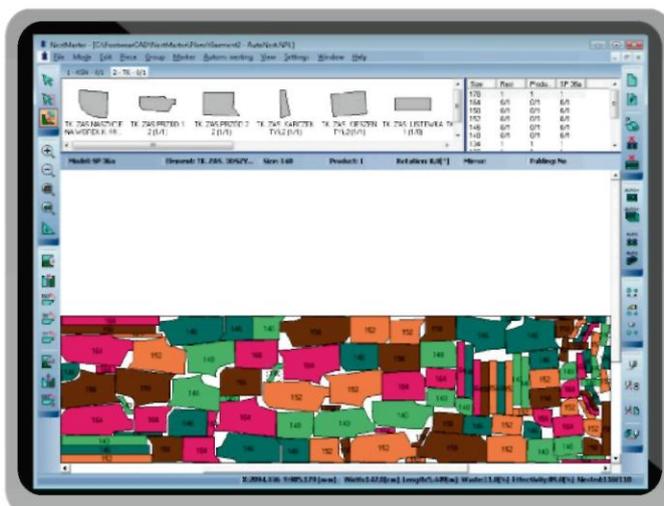
8. Workwear
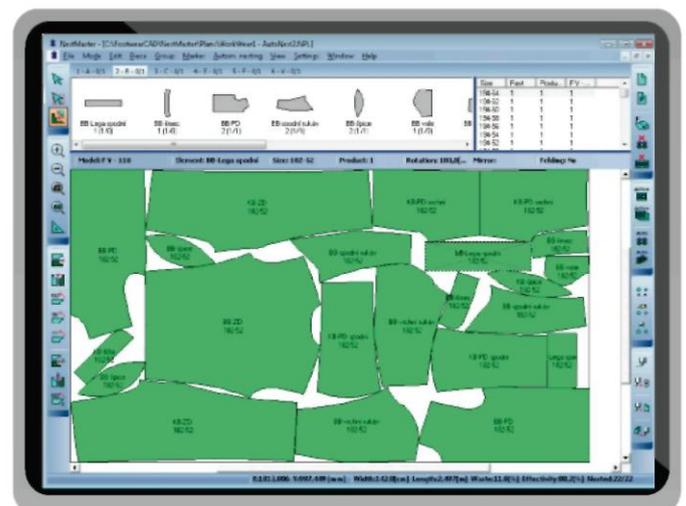
Autonest LEATHER

A special, highly productive algorithm for arranging elements on natural leather. The algorithm is dedicated to highly specific leather work, it takes into consideration areas of quality on the leather and on elements templates. Through this, we can reach the effectiveness up to 80% in less than 5 minutes, depending of the leather. It enables the cutter to work constantly and without any stops in production, resulting in a very high efficiency.
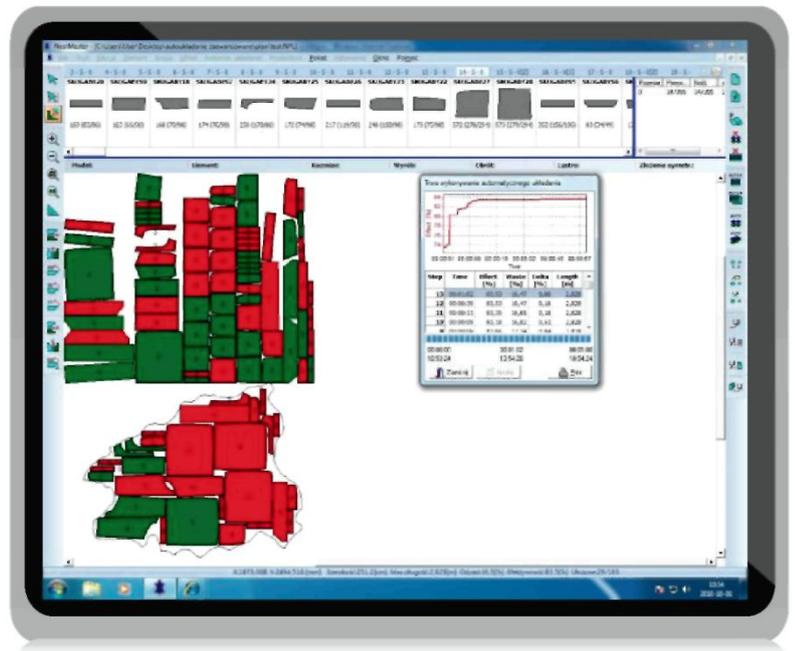

Autonest TEXTILE

A special algorithm for arranging elements on rolled materials. It allows to minimize the waste of textile to few percent only. Savings in time and the material may be so huge that, depending of the size of production, investing in this module pays back after few days only. There is a possibility to import ready-made markers created in other CAD systems and optimize them to reach better results of cutting. Using our algorithm, you can define all the restrictions concerning possible rotations, arrangement along the warp etc.. Zero-buffer between the cut elements and option of the common cutting lines in one operation guarantees increase the productivity of the system of about 10% !

CAMERA (PHOTODETECTION)

The possibility of fast and precision relocation of the shape of the material to the computer memory is especially needed while working with leather. Another important matter is measuring the size of the leather and detection of previously-tagged defects and zones of quality. The Camera plug-in of the NestMaster enables making both actions at once. Taking a split of a second, it is the fastest way of leather scanning available on the market. In result, the efficiency of the leather-dedicated systems increases significantly. The entire scanning process with automatic nesting of the take less than 5 minutes.

Scanned leather

Leather after treatment
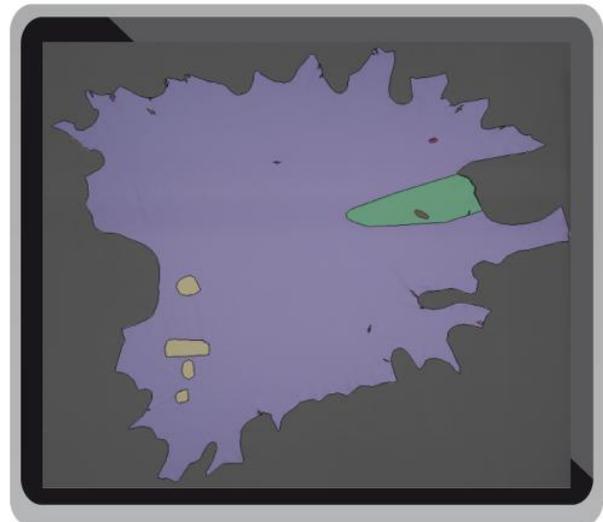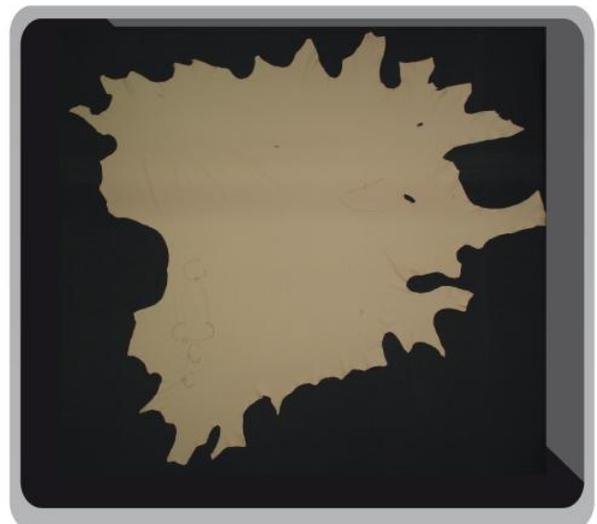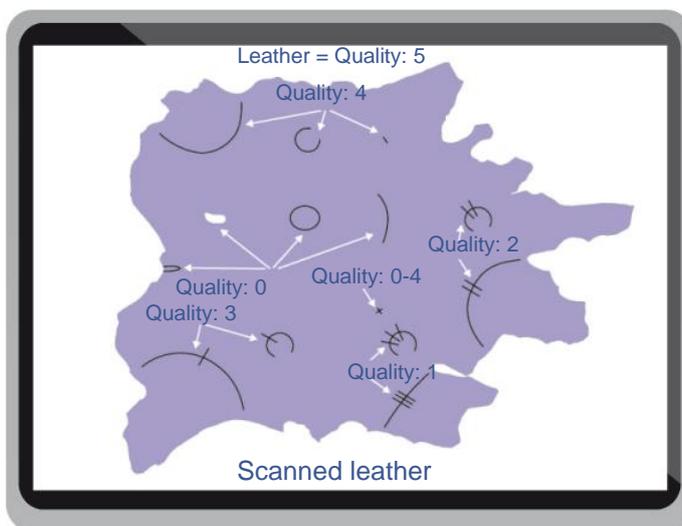
Moreover, this plug-in can be used for innovative photo--digitizing of the templates. The application scans templates, cutters and signed quality zones very precisely. Thanks to this, the necessity of using expensive, slowly working large format digitizers is eliminated. Such a method is incomparably faster than the process of traditional digitization.

PROJECTION

Materials with undefined shape such as leather or patterned cloth require from the modern CAD/CAM system the projection of elements on the material. NestMaster as the only CAD/CAM system offers user possibility of interactive arranging virtual templates on the material. The operator places the elements exactly where they ought to be cut, taking into account the pattern on the material, defects and directional pull of leather. An additional advantage of the projection system is the possibility of using all major wastes – the risk of incorrect positioning elements on wastes of the material is minimized because of advanced system of virtual positioning on the material, using digital projection.

SNT – Separated Nesting Table with Bar Codes

This module is designed for working with leather. It enables scanning leather hides on a separated table, making full documentation of this process and nesting of elements on leathers. Autonest Leather is a dedicated algorithm that arranges templates, avoiding defects and recognizing areas of quality optimally. The next step is the printing and placing the bar code on the leather; then the signed ones are queuing. There is no need to re-scan the same leather hide on the table before the process of cutting – we can just scan the bar code - the leather will be recognized by the system and the cutter will be ready to work.

Plot Manager

This is a special application that connects the Nestmaster with the cutter using a series connection or USB. It allows to control and manage the data queue sent to the cutter: to begin cutting, stop cutting or cancel of process. Additionally, the program monitors entire communication between the software and the plotter and generates essential data needed for creating full reports on the system work by the CutStatistic.

MiniPDS

MiniPDS is a very smart and universal construction program. It allows to create model templates in industries such as: technical textiles, automotive, furniture, composites and others in a very intuitive way. Additionally, it enables to export created templates to DXF format.
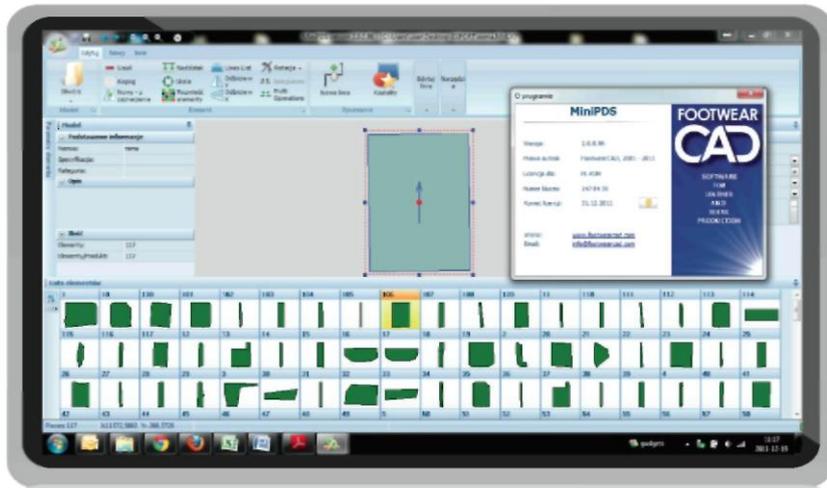

The most important advantage of MiniPDS is the ability of digitizing templates in many different ways. This software cooperates with digitizers of many sizes, scanners, and most importantly, with the innovative method of photo-digitization of the templates. Furthermore, thanks to the IMPORT plug-in, it can import created templates from other CAD programs available on the market and then edit them by changing shapes, evening the lines, adding notches, marking quality zones, adding lines of cutting and more.

MiniPDS offers many of functions seen in expensive competitive programs at a very reasonable price.
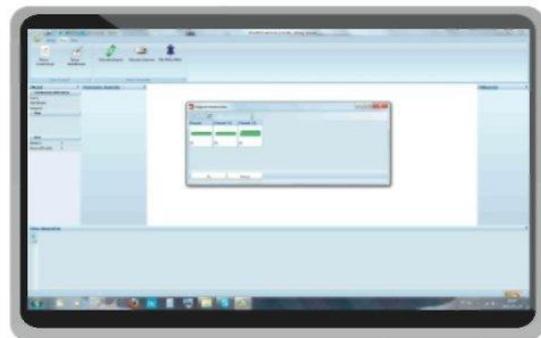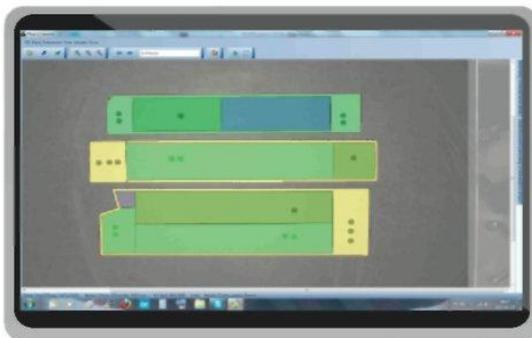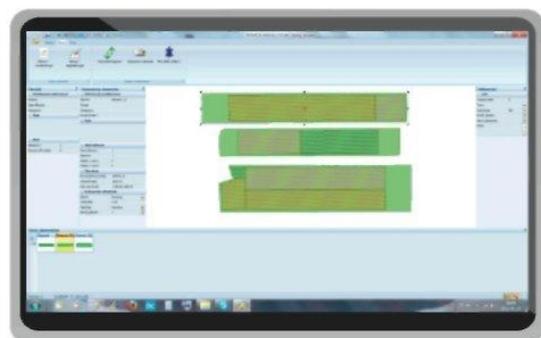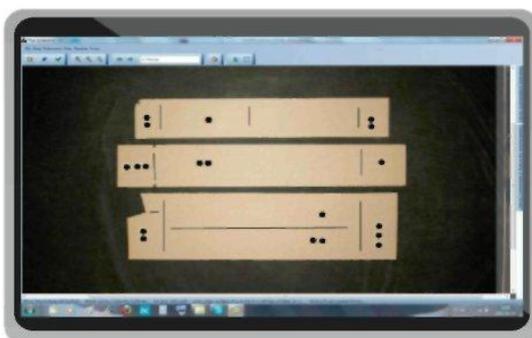
Sorting Manager

Sorting Manager is a new method on sorting (gathering) the cut-out elements in single-layer systems. The process of mixing cut plans with different sizes and styles (if it is possible) improves the efficiency of automatic nesting, but from the other side makes the process of collecting cut elements much more complicated. In response to this problem, the KSM company made a solution to prepare ready to sew sets of cut elements – the Sorting Manager application.
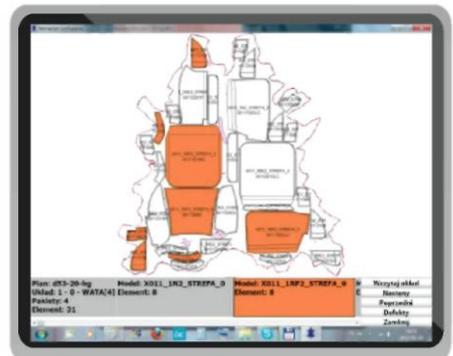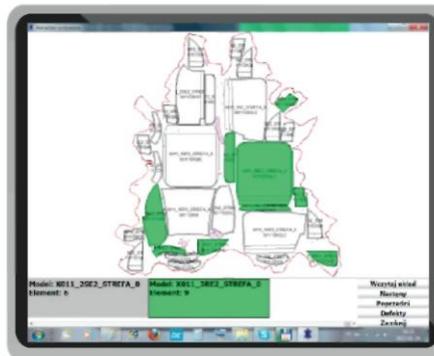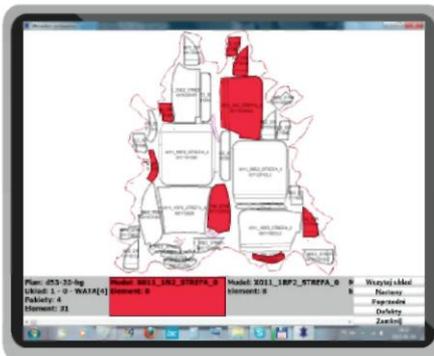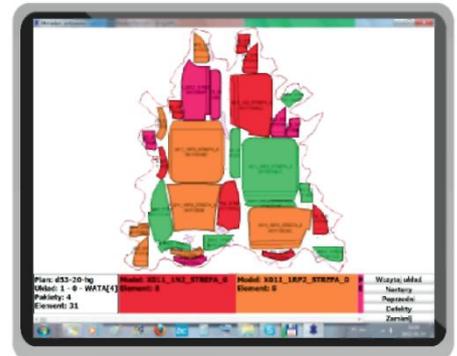
Sorting Manager is an unique cut-outs projection system which maximally simplifies the process of gathering cut elements. Its uniqueness is based on the fact that it is completely configurable and easy to use. The sequence of collected elements is defined depending on the production process in the company. There is no need to know all of the patterns being used by the operator. The projector highlights with colors all elements ready to collect. Our system guarantees lack of brakes in the cutter work needed for matching the elements; it also eliminates human errors and allows to reduce the number of required service.
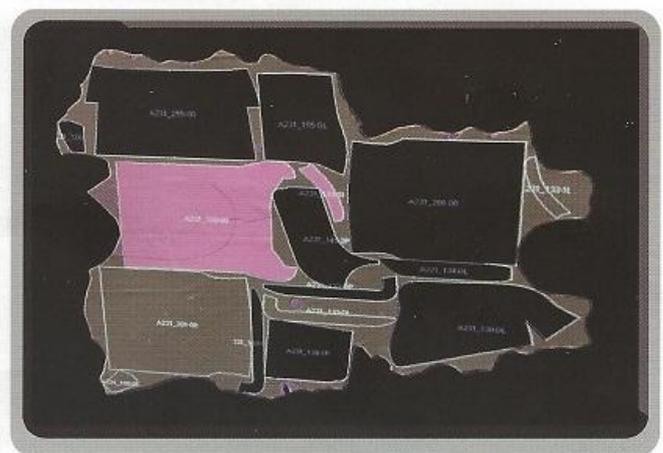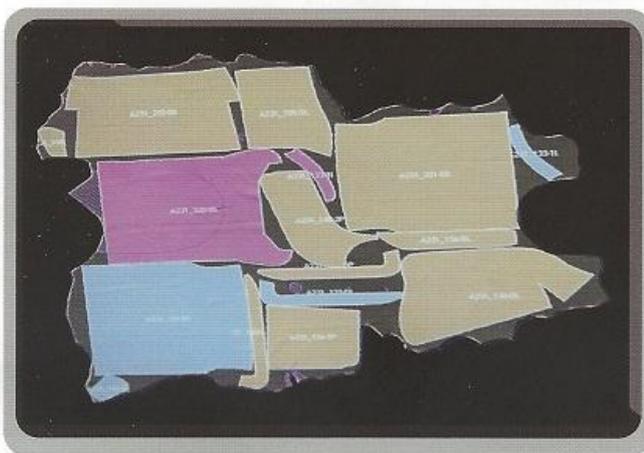
1. View on additional monitor
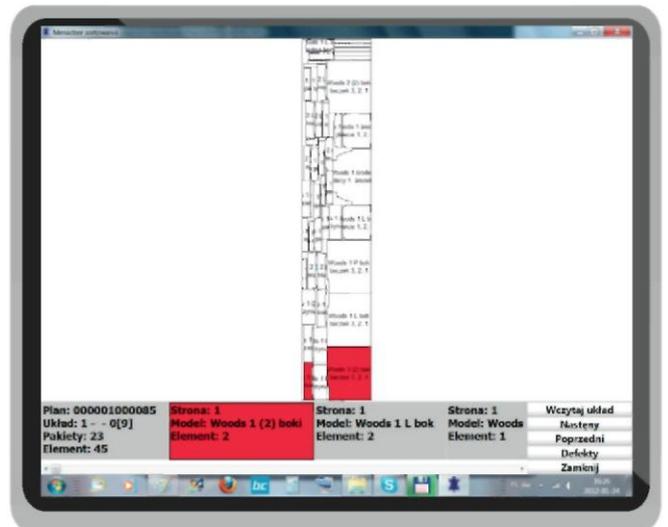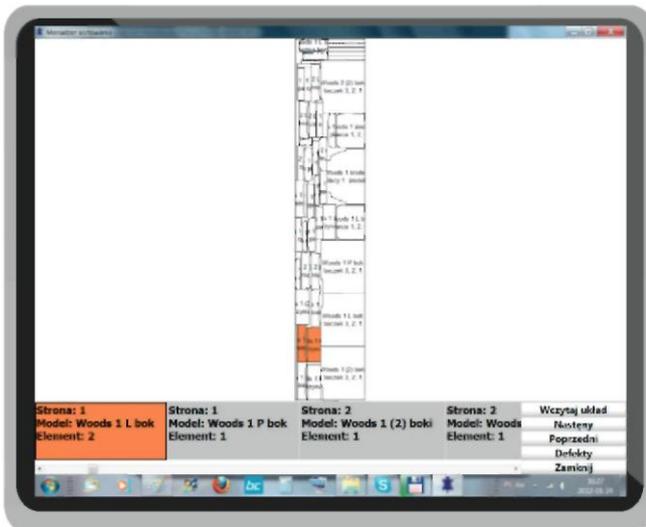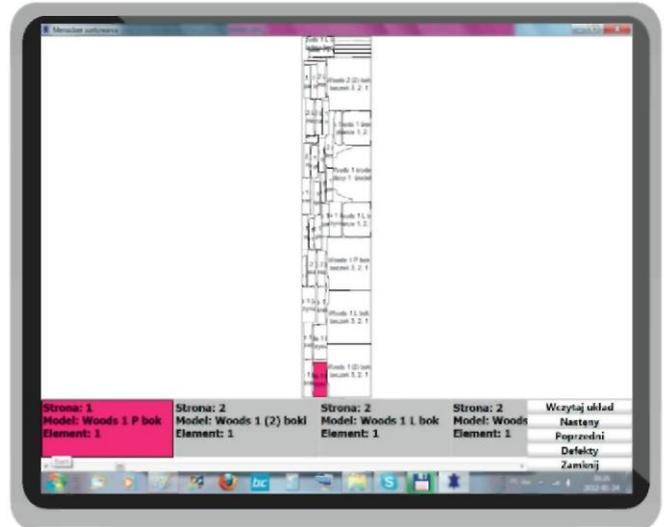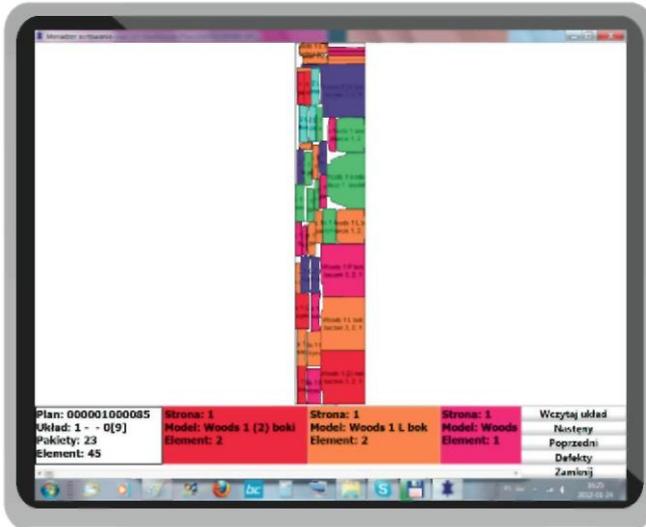
2. Elements displayed on material using projector:

Cut Statistic

This module records statistic informations about cut plans into database. The following information are recorded: names of cut plans and models, list and quantity of pieces, time of cutting, material area, wastes, efficiency, picture of nesting. Using following data, the application creates reports with tables and graphs for selected time interval, shift, worker, materials, models etc. Available reports: history of production, marker (plan) details, models/pieces, worksheet, workers productivity.
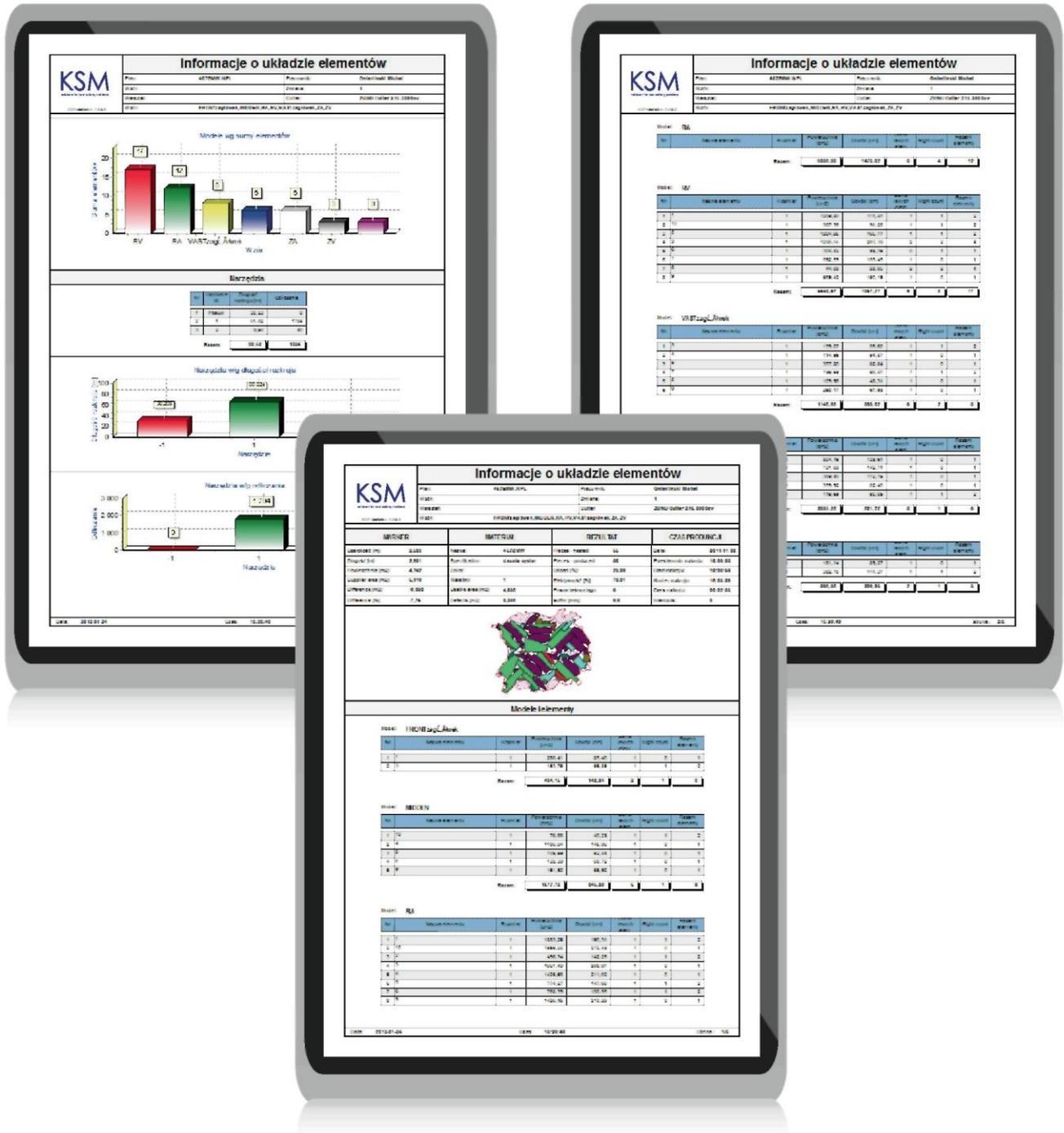
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