

COMELZ

THE CUTTING EDGE COMPANY



CALIGOLA4
LEATHER GOODS

CALIGOLA4

A quarter of a century since its debut, and more than a decade after its total renewal, the fourth generation of Comelz CAD is, more than ever, a fundamental product for the design of footwear and leather goods. Born from the need to provide data to the then rising volume of cutting machines, Caligola4 has grown over time, without ever betraying the vision of *powerful, effective, easy* and *intuitive* software, always attentive to the needs and suggestions of users and market.

Today, some of the key features making Comelz CAD a unique product are:

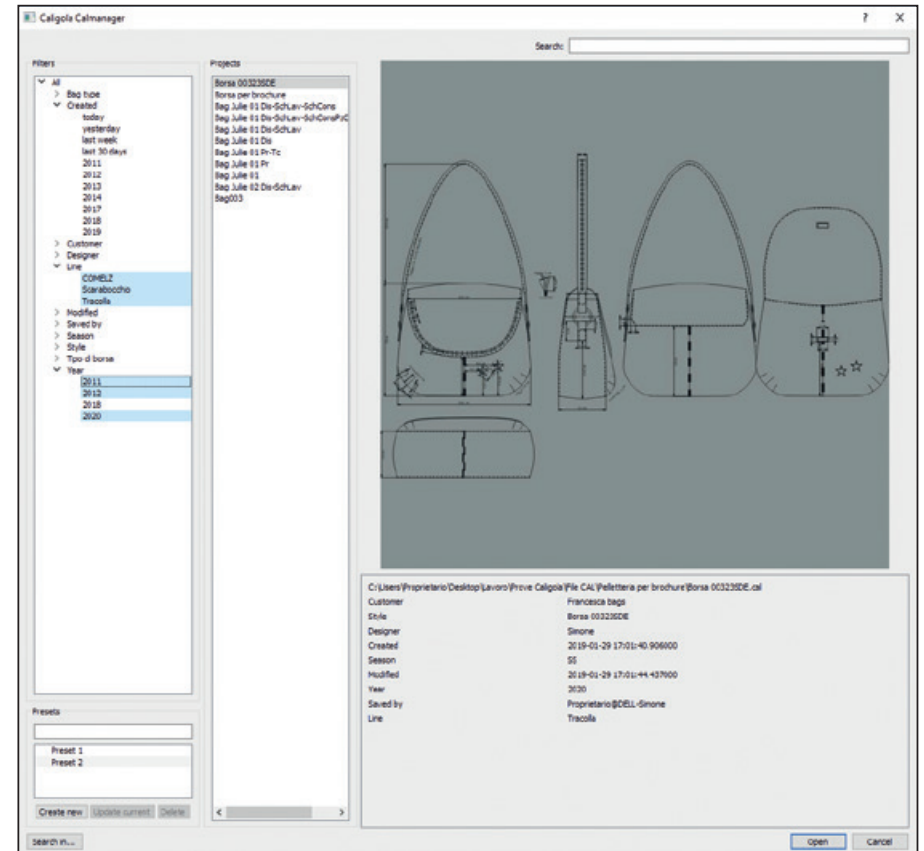
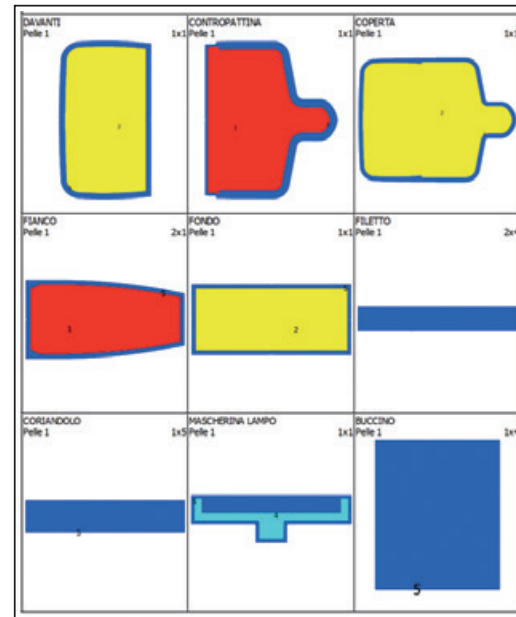
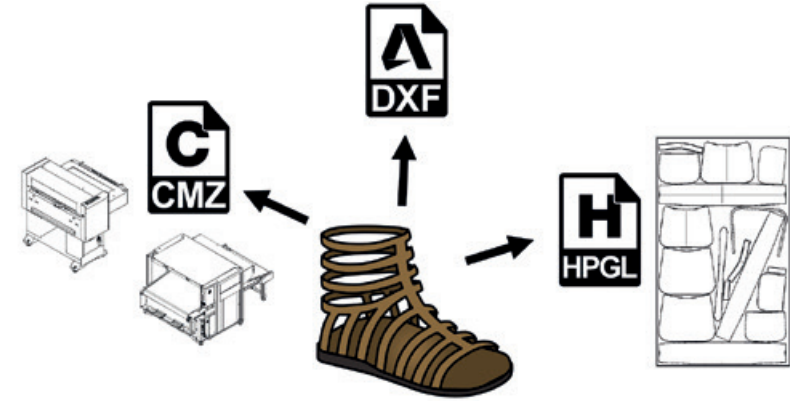
- **Open:** in input and output, to other CAD applications, to cutting peripherals (CAM), to PDM and management programs.
- **Modern:** recently redesigned to exploit the latest information technologies, that make it 'future proof' and offer superior graphics performance.
- **Interactive:** able to communicate directly with Comelz support for automatic error sending and problem reporting.
- **Unlimited** use, with an irrevocable and transferable license.
- **Continuously updated:** more versions published each year, with new features, are available to customers who sign a maintenance contract.
- **Specialized:** for *Footwear, Bottom, Leather goods*.
- **Totally parametric:** everything built on the basic entities remains connected to them and is updated automatically: from margins to mirrored entities, from pieces to graded sizes, from the processing sheets to consumption sheets.
- **Configurable,** allows each user to adapt it to their needs: with colors, the display, layout of the toolbars, and the definition of the various entities and their attributes. In menus there is the choice of which functions to present, and in what order.
- **Customizable,** through the writing of plugins, external software modules, to meet specific customer needs.
- **Multilanguage,** to be easily understood all over the world

Caligola4 is a real collator of design and production information for the companies that adopt it.

The integrated module of Technical Data Sheets adds to the project all the information useful for production, and keeps it connected to the model. Data includes the Envelope, (Cover), Processing sheets, Bill of Materials and Consumption sheets, with automatic nesting. It is also possible to create databases of Materials, Accessories and Processing, as well as to import them from management software.

Whatever your variant of Caligola4, it includes as standard:

- **The input of the basic elements of the model:** (lines, holes, references, etc.) using, *digitizers* (graphic tablets), *scanners*, *image files* (uploaded as background) and automatic vectorization. Files generated by other CAD applications in different formats such as; DXF, PAT and SHOE can be imported.
- **Outputs** can be in four formats: **CMZ**, the Comelz proprietary format for peripherals, cutting and punching machines. **DXF**, structured and configured according to the needs of the recipient using the *CalCon* software module. **HPGL**, through *CaligolaNP*, a management module with automatic nesting for cutter/plotters. **PDF**, for printing the model.
- **Calmanager**, an integrated search engine, helps you keep track of your project files in an intuitive way without having to remember exactly where you saved them.
- The means to define **quality areas** of pieces for automatic nesting on leather.

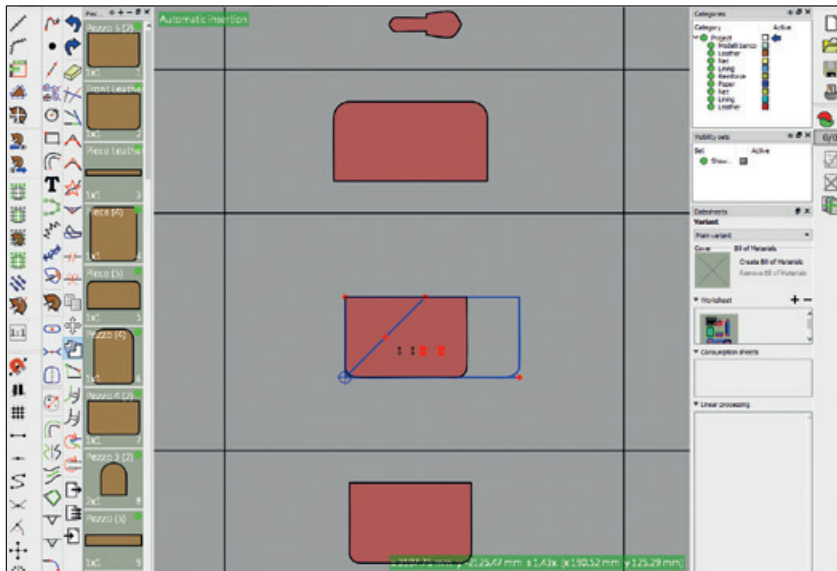
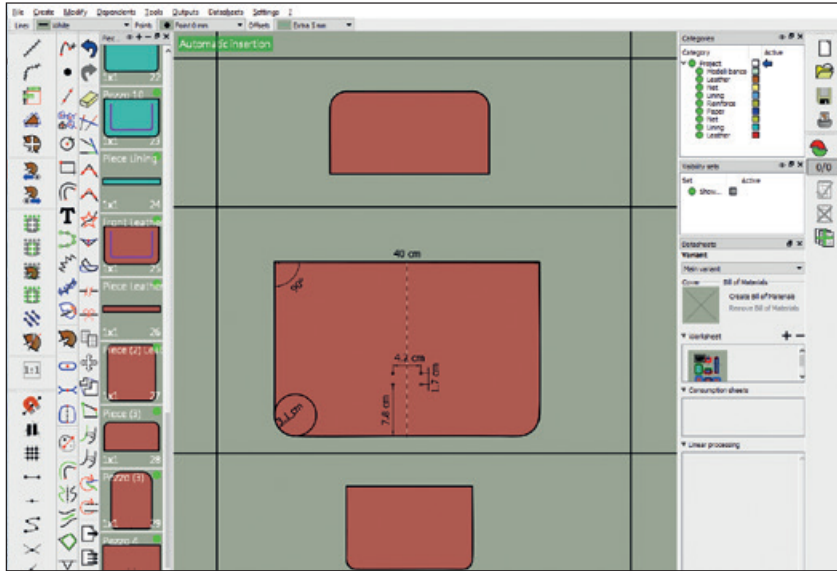


“Caligola4 is open software”

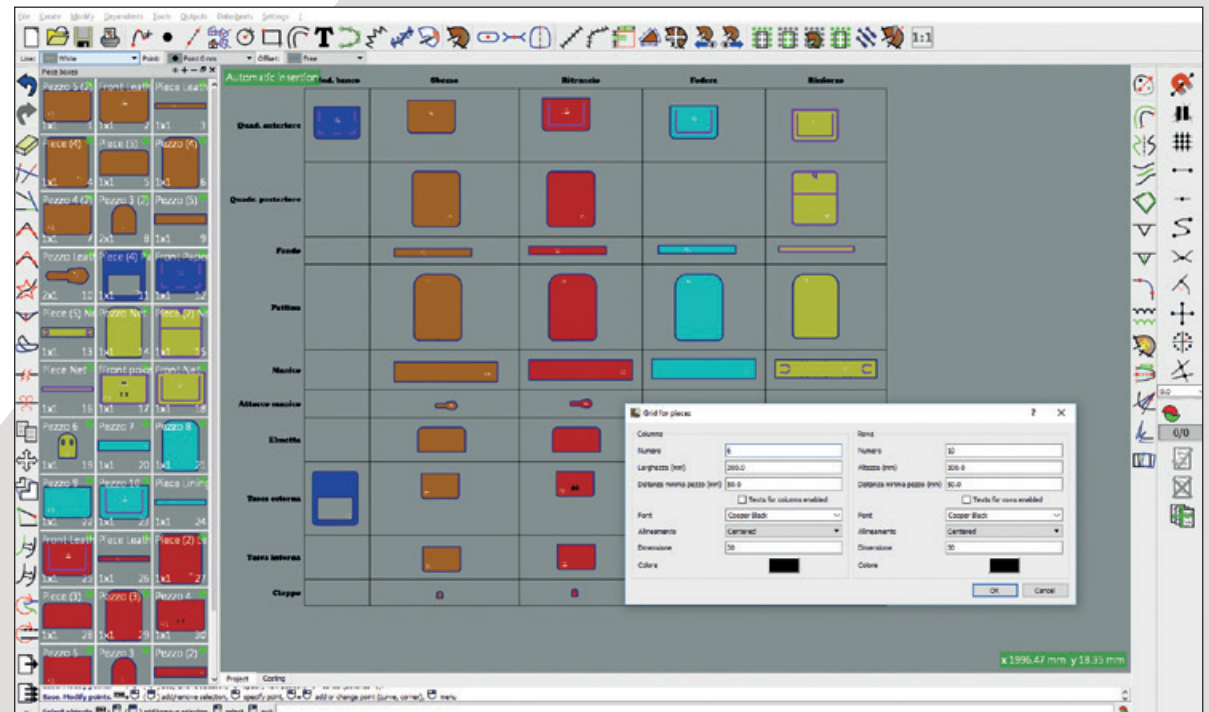
Caligola4 for Leather goods

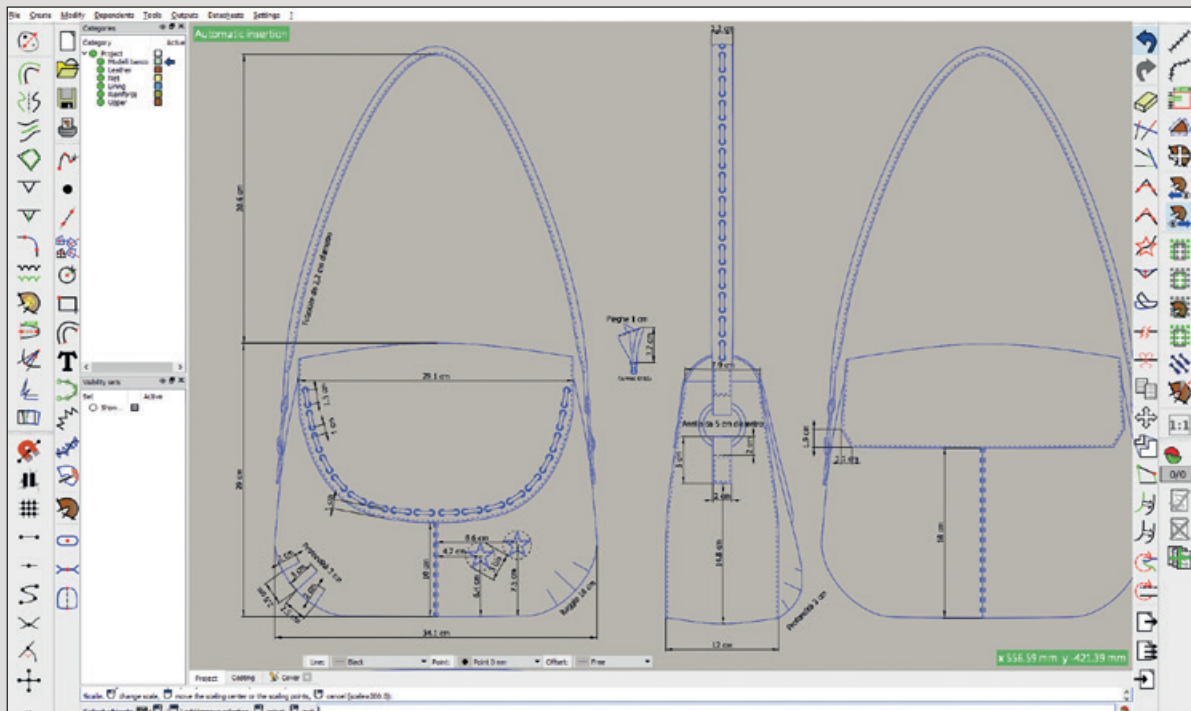
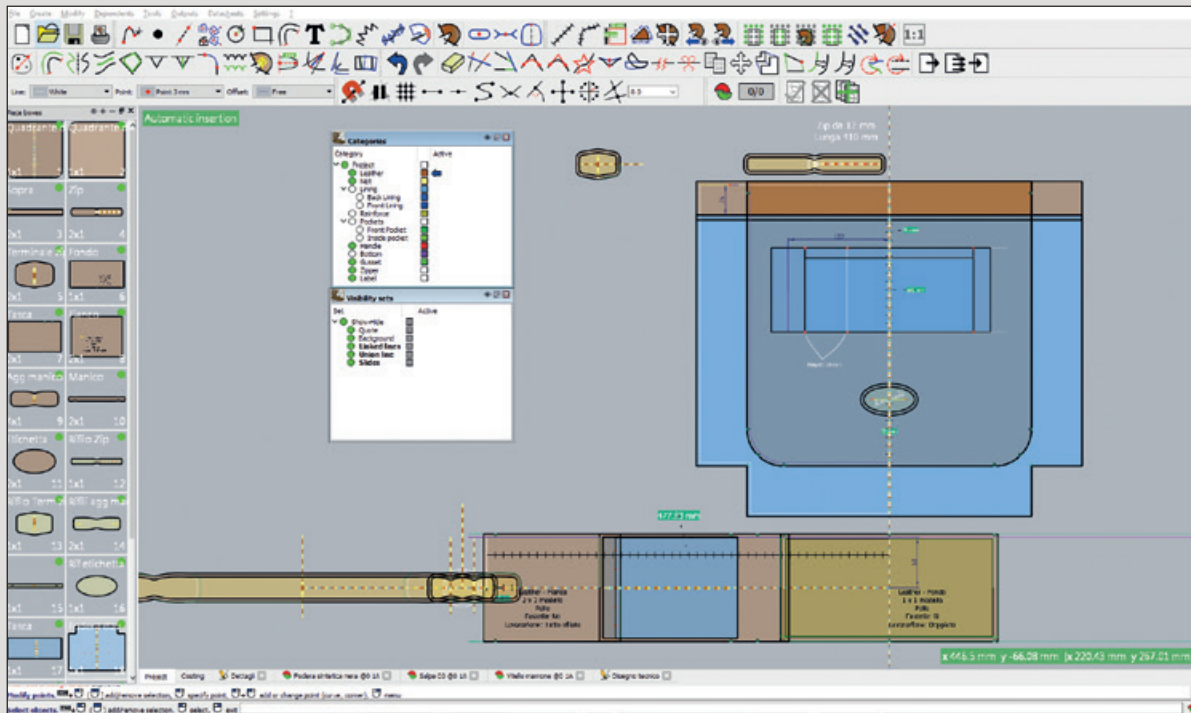
2D/P, is a very advanced module of design and engineering that allows the user to work both in a *traditional way* and *from the base*.

Traditionally the created pieces are independent of each other and are ordered in a *Grid* whose rows and columns are customizable (eg: name / type). Despite this, however, it is possible to maintain lines and entities of different pieces linked to each other in order to ease the linked modification.



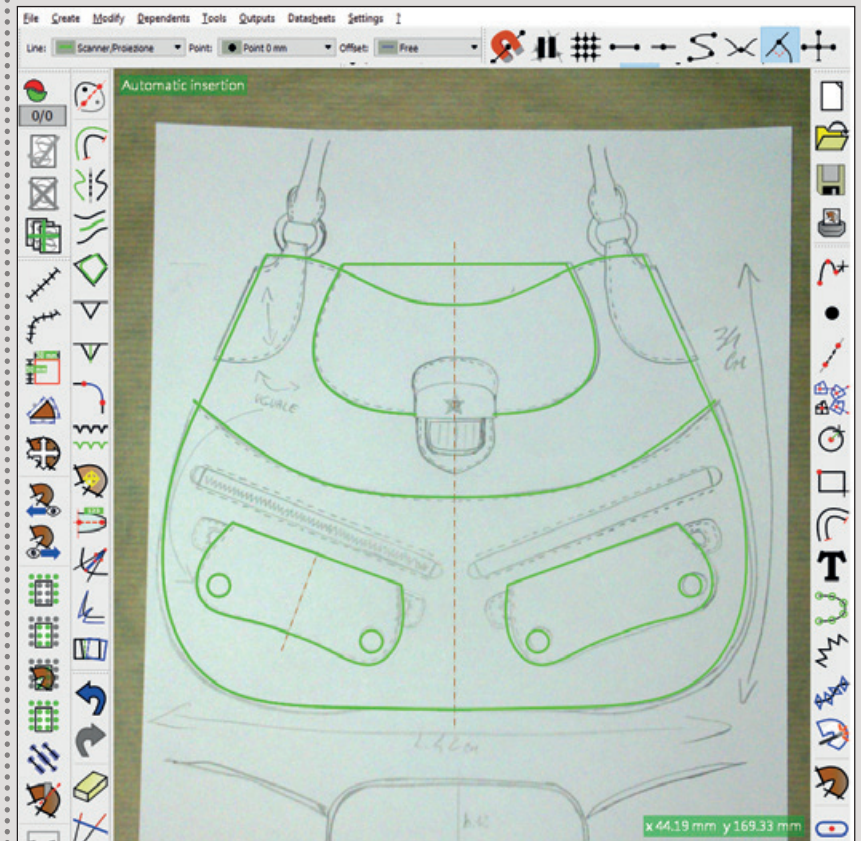
**“Working in a traditional way:
pieces ordered in a grid”**

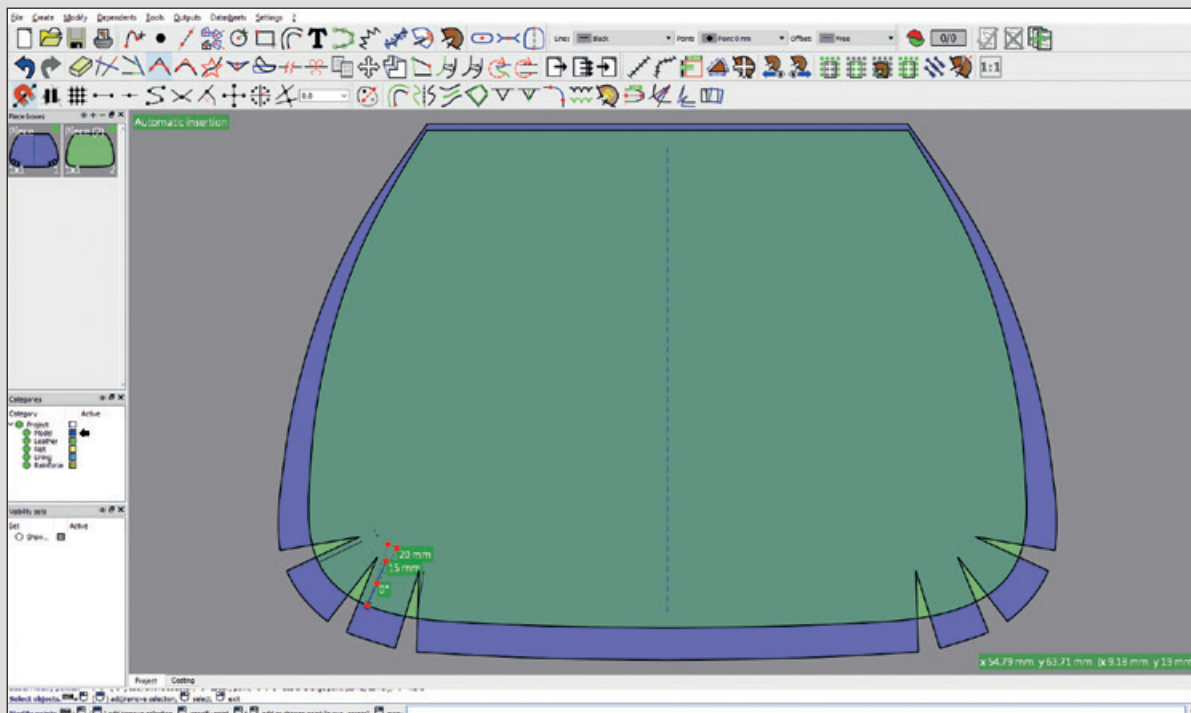
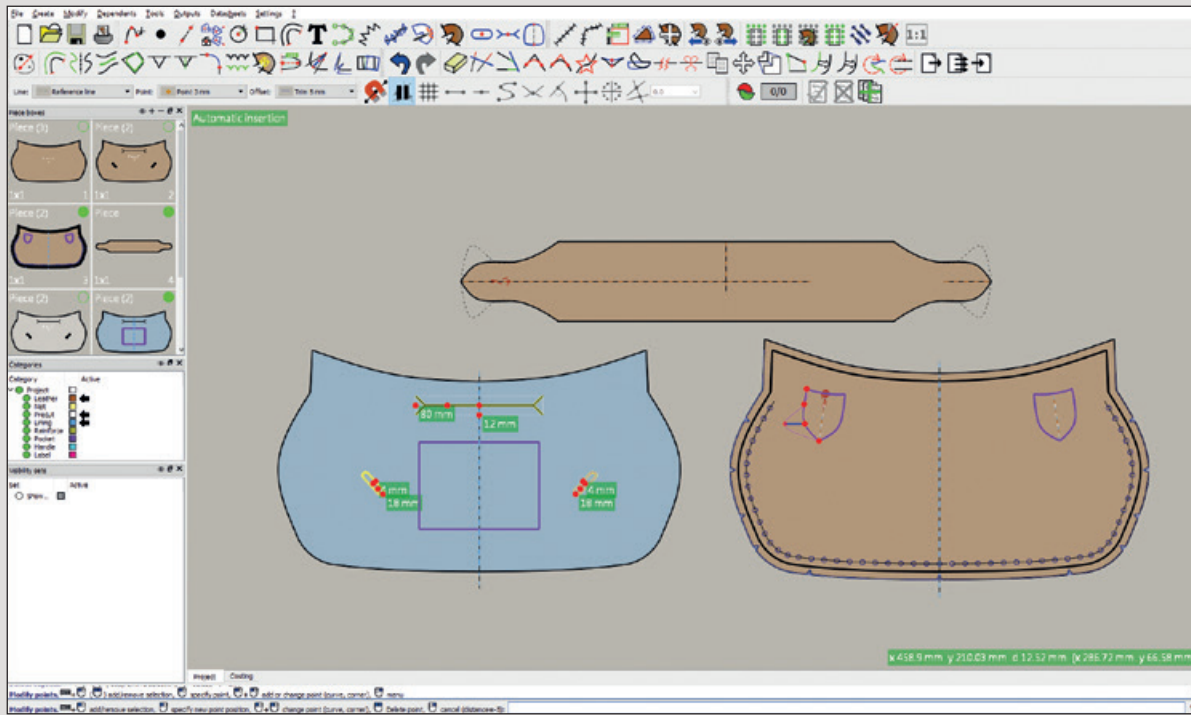




- Alternatively, taking full advantage of the parametricity of the program, you can work from the base, drawing only the basic lines of the model and going to build on them all the pieces through the addition of: *Axis*, *Mirrored entities*, *Stencils*, *Notches*, *Fillets* and *Margins* (repeating the notches built on the support lines): folding, underlay, trimming, sewing, etc.
- The main advantage of this approach (which keeps everything connected to the basic entities, especially the pieces), is the immediacy of the changes and the elimination of errors, while the visualization problems resulting from the concentration of entities very close to each other, and sometimes even overlapped, is solved by filters.
- The ability to freely create *Categories* and *Visibility sets*, also structuring them hierarchically, makes Caligola4 unique for clarity in the display of entities and pieces. In fact, by turning the different layers on and off, a user can hide what, occasionally complicates the view: from single entities to entire categories such as *quotes*, *gradings*, *background images*, etc.

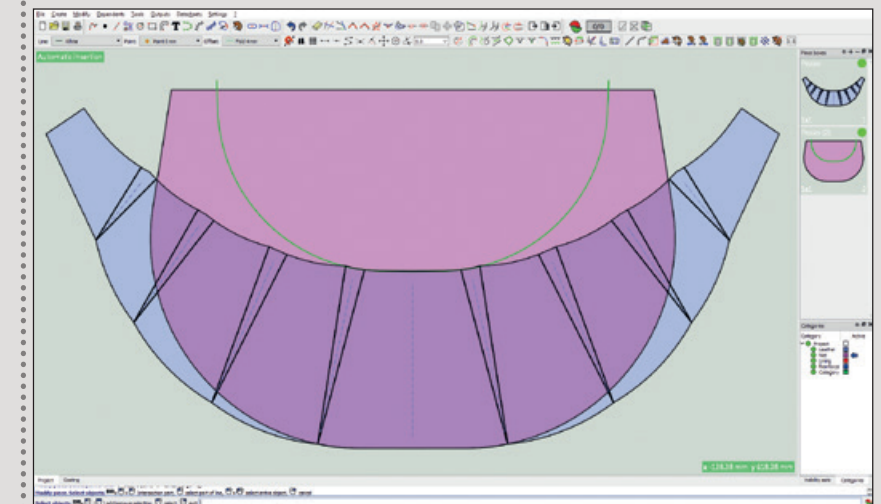
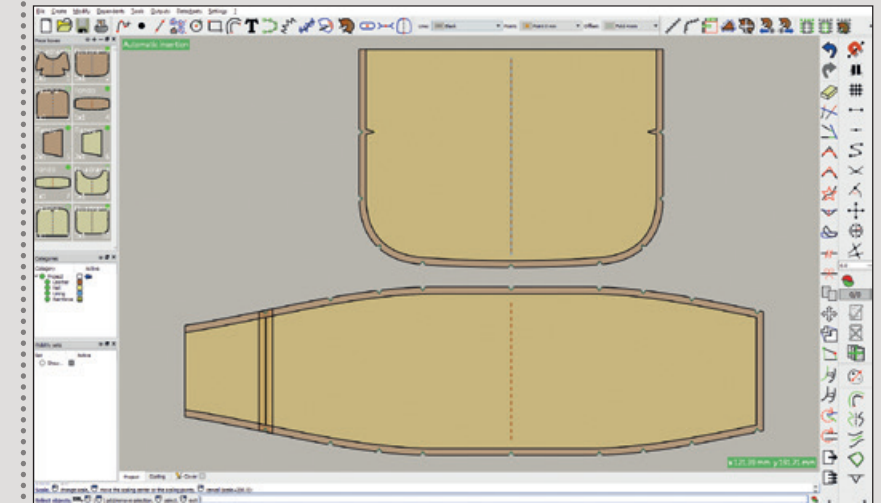
“Working from the base”



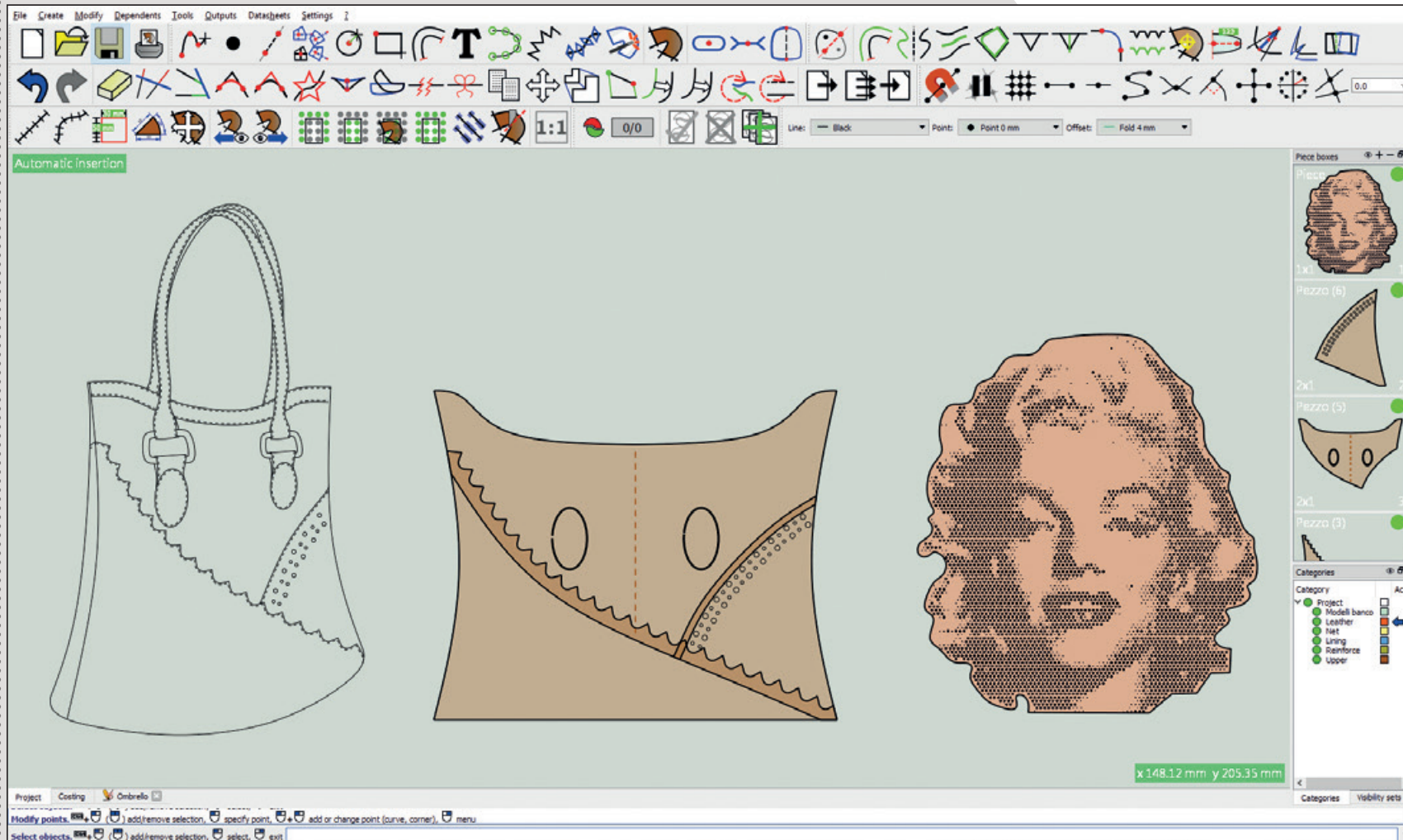


- In addition to the creation of *Eyelet*, *Cuts for zip*, *Texts* and geometric entities such as: *Parallels*, *Midlines*, *Circles*, *Ellipses* and *Rectangles*, Caligola4 provides the user with other very powerful, specific and guided functions.
- The parametric creation of the *Front face* or *Side/Border*, and connected to the *Front face* the reference notches for the seam. *Pinces*, defined in a parametric way and also connected to the *Front face*. *Pleats*, which once defined, allow the unfolding of a boundary to obtain the open piece, connected to outline of the closed piece.

“Standard features, specific features, special features”



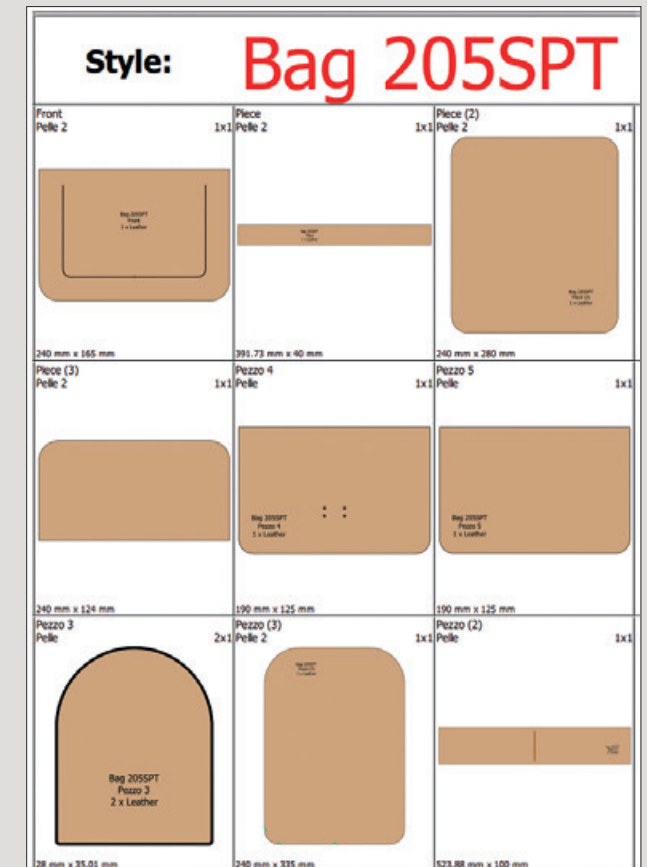
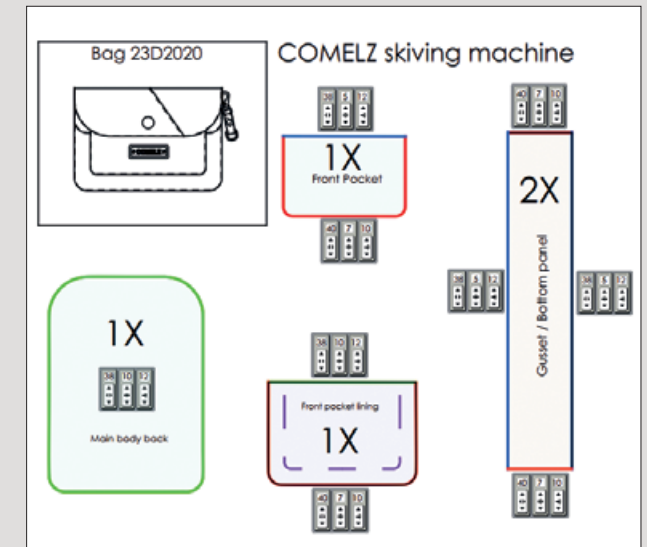
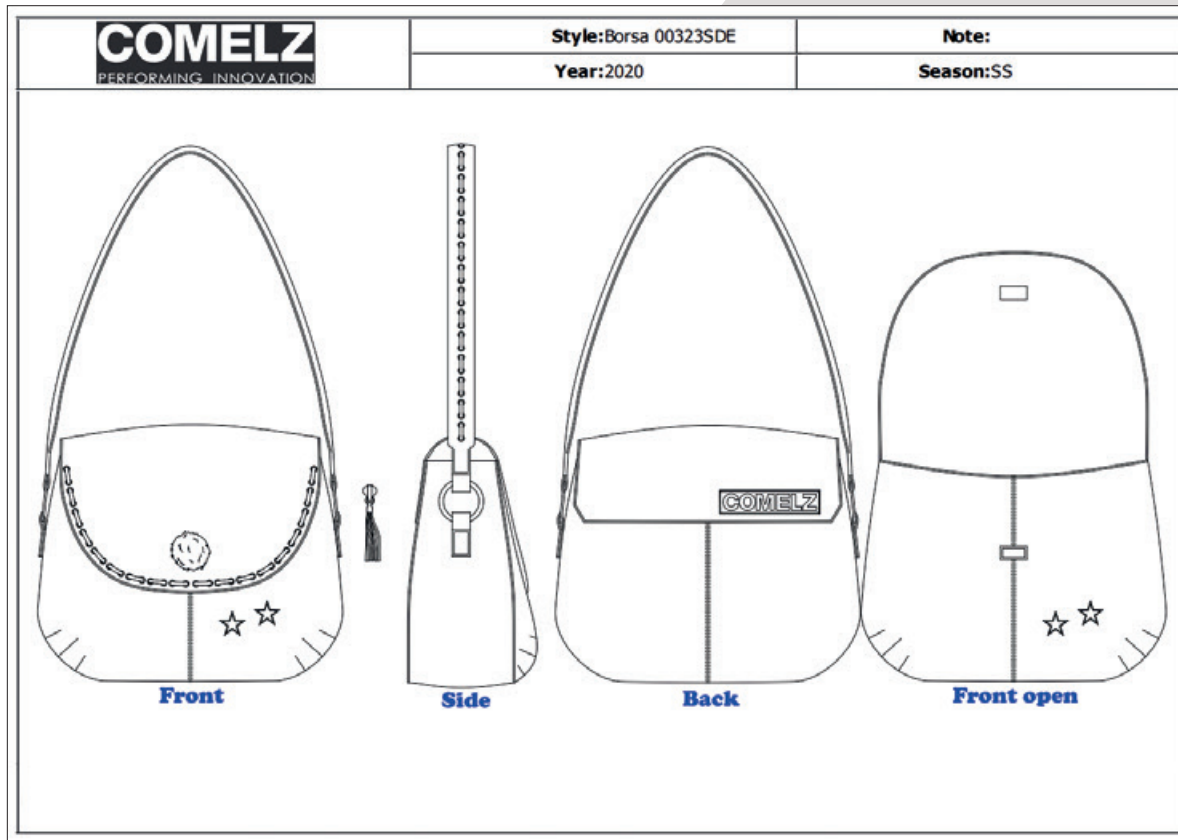
- The ease and rapidity with which you create and fine-tune models with Caligola4 also depends on a complete and effective set of editing tools.
- The base lines, already smooth with minimal control points, can be adjusted in a completely natural way by simply moving the guide points, inserting or removing new ones, turning smooth points into corner points and vice versa.
- Base lines can also be *Trimmed*, *Extended*, *Smoothed*, *Bent* (curve adjusted), *Broken* (split) and *Merged* (joined).
- Editing tools provide such functions as: *Copy*, *Move*, *Rotate*, *Scale*, *Transform*, *Make independent* (convert) dependent entities, *Change* their type and style, *Export* and *Import*.
- Each operation is made simpler by measuring instruments such as *Rulers* and *Rollers*, two dynamic, and by an intelligent set of snap options: *Endpoints*, *Midpoint*, *Base point*, *Near point*, *Orthogonal point*, *Intersections*, etc. More sophisticated tools allow, in a simplified way, complex technical constructions such as *Side-Borders*, *Pincers*, *Pleats*, and *closed areas* to which background images can be applied for a photorealistic rendering of the textures of the materials. Typically for a cover sheet.

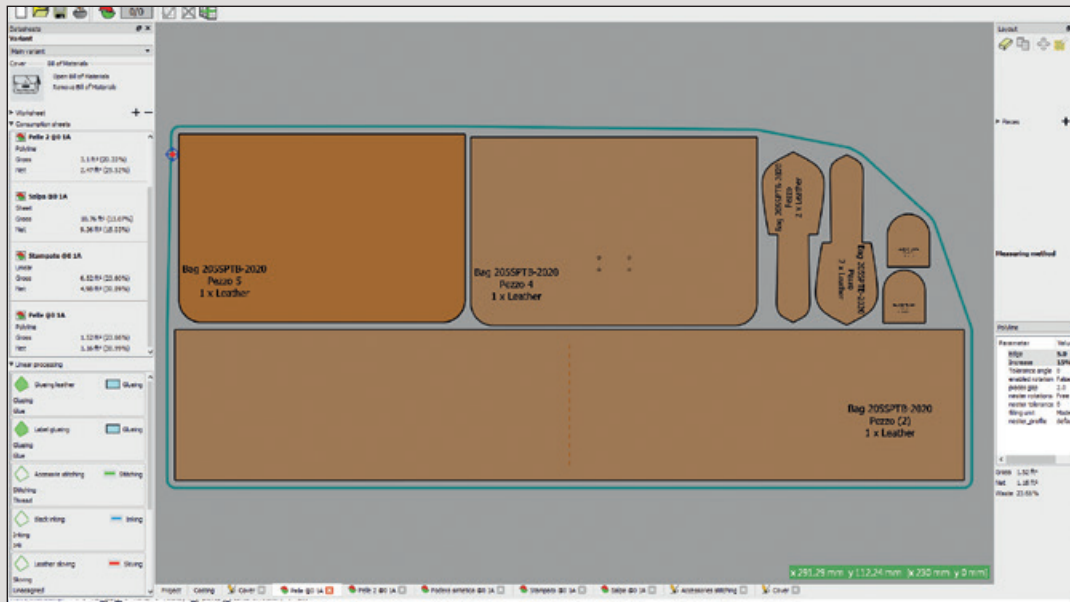


Datasheet

All Caligola4 CAD packages include the **ST** module, a tool that allows you to create or import databases of Materials, Accessories, Processing and to generate a complete set of datasheets:

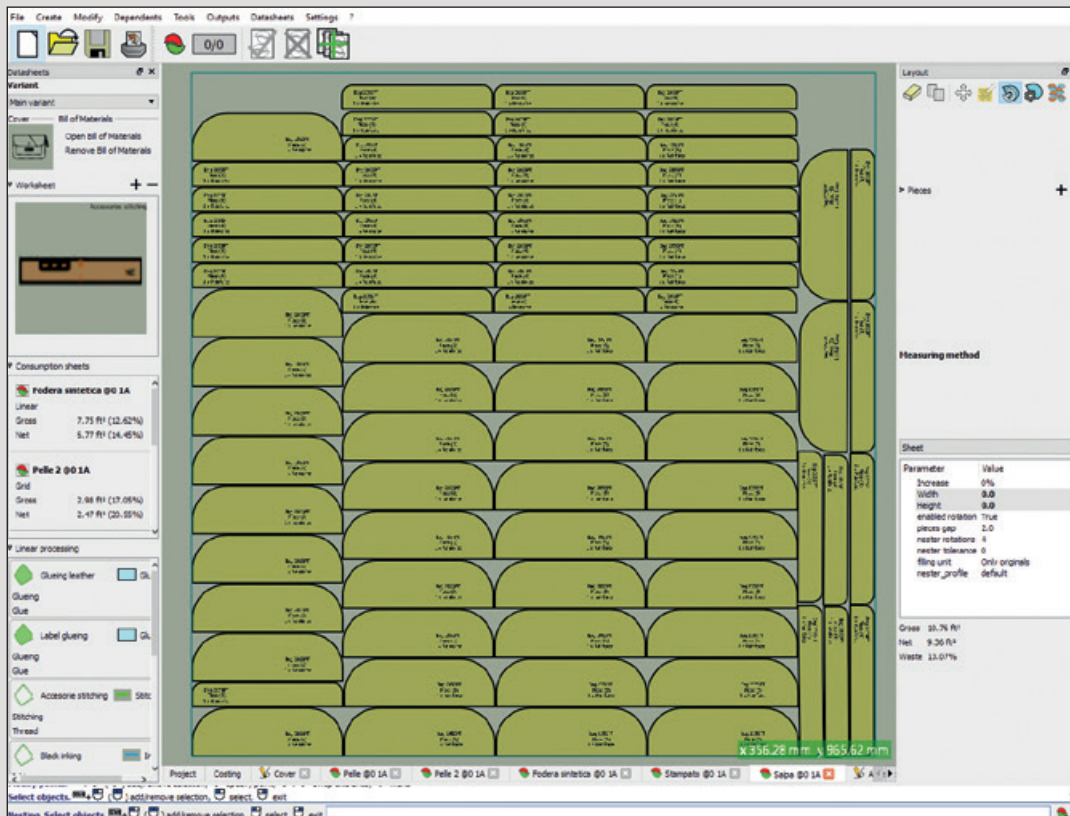
- **Envelope or Cover.** Using the normal drawing tools and functions such as *Blocks*, *Embroidery lines*, *Hole-lines* and adjusting the lines with *Extend* and *Trim*, it is easy and fast to obtain, from the base, a prospect of the bag finished with eyelets, seams, zippers, etc. and technical notes on processings.
- **Pre-defined processing sheets.** These are generated automatically and collect, in a grid, the pieces accompanied by specific information (name, type, material, quantity, net area, dimensions), as well as notes, if compiled by the user.
- **Customized processing sheets,** which the user can create for particular annotations by adding texts, lines, images, on the single piece or on sets of pieces to specify the assembly order.
- **Linear, area and time processing sheets.** Through specific functions it is possible to define **linear processing** (sewing, skiving, folding), **area processing** (gluing, pairing, equalization), **time processing** (putting in studs, adding eyelets) and automatically create sheets, divided by working center, and where they appear, the pieces involved, the materials used, and the notes.
- **Summary sheets,** related to the single pieces that indicate all their processing.





- **Automatic consumption sheets**, calculate the consumption of the material based on the percentage of waste set.
- **Manual consumption sheets**. On placing pieces, different calculation methods can be applied: *grid*, *polygon*, *rectangle*, *single rectangles*, *parallelogram*. Furthermore you can place: on **Sheet**, displayed in the working area of the set dimensions; on **Roll**, with set width displayed in the work area and with repetitions of the group of placed pieces; on **Leather** with boundary and quality areas as a background.
- **Consumption sheets for sizes**, derived automatically from the consumption sheet of the single size: gives consumption for all graded sizes.
- **Quality areas sheets**. Shows the quality areas of pieces in separate cells.
- **Bill of materials**. List of all the components of the model (materials, accessories, processing) with the related costs, to print or export in PDF, JSON, CSV

All datasheets, whose layout can also be customized, are printable and exportable in PDF. Moreover **ST**, like the CAD packages to which it is aggregated, provides the management of the multiple variants in a single project.



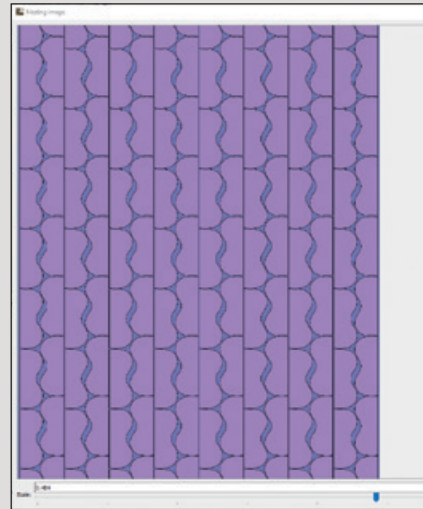
Style: Bag 2055PTB-2 **Ask to:** Simone

	Comp.	Code	Description	U.m	Qty	Unit cost	Total
•	Material 1	002	Fodera sintetica	m	0.1713		0.8567
•	Material 2	005	Pelle 2	ft ²	2.9804	18.0	53.6466
•	Material 3	007	Salpa	Sheets	0.0252		0.126
•	Material 4	009	Stampato	m	0.0721		1.4425
•	Material 5	001	Pelle	ft ²	1.5168	12.0	18.2018
•	Process 1	001	Skiving	min	04m 07s		0.4117
•	Process 2	002	Inking	min	01m 25s		0.1417
•	Process 3	003	Stitching	min	04m 28s		1.34
•	Process 1	004	Glueing	min	43s		0.1433
•	Linear processing component 1	011	Thread	m	4.9838	1.0	4.9838
•	Linear processing component 2	012	Ink	m	0.7743		3.8717
•	Linear processing component 1	013	Glue	kg	0.0371		0.9279
						TOTAL:	86.09

ST-Plus

- The Comelz *costing* is the module for the calculation of production costs of leather goods related to materials: synthetic and natural. It is a self-contained and independent software that can receive data in DXF format from any CAD application but it is above all a module perfectly integrated with Caligola4.
- In the leather industry, where the most important and difficult to estimate costs are those of the material, **ST-Plus**, which integrates the powerful *nesting* used by Comelz on its cutting islands, represents a revolution because it allows an accurate and precisely matching consumption calculation. Furthermore, the possibility of mixing different pieces in the placings, optimizes consumption and provides more realistic estimates.
- The dominance of the production process and the efficiency of cut allowed Comelz to develop a unique program for superiority to other software on the market.
- In addition to printing data and reports, importing from and exporting to PDM and management programs is ensured by standard formats (XML, JSON, CSV).

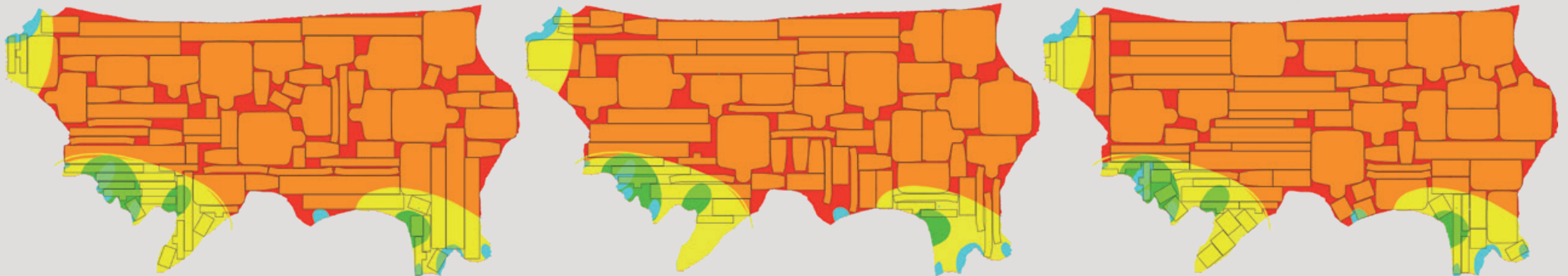
“ST-Plus use the powerful Comelz nesting engines”



The screenshot displays the ST-Plus software interface. On the left, a 3D perspective view shows a yellow leather piece with a red dot and a red outline. Below it, a 'Material' list includes items like 'COPERTA', 'FILETTO', 'PIANCO', 'DAVANTI', 'ELVETTA', 'SPALOTTO', 'MASCHERINA LAMPO', 'FONDO', 'CONTROFATTURA', 'CORRANGOLO', 'TRALAMPO', 'BUCCINO', and 'BANDIERINA'. The main window shows a table with columns: Piece name, Quantity, Net area, Category, and Material name. The table lists three items: DAVANTI (1x1, 0.0466 m²), CONTROFATTURA (1x1, 0.0475 m²), and COPERTA (1x1, 0.0892 m²). A 'Modify automatic consumption sheet' dialog box is open, showing a list of materials: TIRALAMPO (1x4), BUCCINO (1x4), BANDIERINA (1x7), and COPERTA (1x1). The dialog also displays a 'Nesting' diagram of a piece and a 'Costing' section with the following data:

Material	Quantity	Net area	Category	Material name
DAVANTI	1x1	0.0466 m²	Project	Vitello
CONTROFATTURA	1x1	0.0475 m²	Project	Vitello
COPERTA	1x1	0.0892 m²	Project	Vitello

Costing data:
Net area: 0.3372 m²
Gross area: 0.3901 m²
Efficiency: 81.33%
Costing:
Cost unit: 1 m x 1 m
Price: 30.00
Unit per MPU: 2.3637
Yield per unit per MPU: 0.3901
Cost per unit per MPU: 3.9007



“Everyone can choose his CAD”

Caligola4 is made up of different modules to provide the most suitable product for their needs and to contain the purchase costs. Some of these modules are fundamental and determine the type of CAD (Footwear, Bottom, Leather goods), while others, like the GR grading module, are optional.

Description	Module	Footwear				Bottom	Leather goods
		2D-GR	2D	RP-GR	RP	RP/S	2D/P
2D footwear design	2D	●	●				
2D Leather goods design	2D/P						●
Pattern detector	RP	●	●	●			●
Pattern detector for insole	RP/S					●	
Grading	GR	●		●		●	
Datasheets	ST	●	●	●		●	●
Universal converter CMZ <=> DXF	CALCON	●	●	●		●	●
HPGL Plotter manager	NP	●	●	●		●	●

ST-Plus consists of two main modules: one for nesting on synthetic materials, the other that adds nesting on hides.

Description	Module	ST Plus	
		ST-Plus/S	ST-Plus/A
Automatic nesting for synthetic	ST-Plus Synth	+	+
Automatic nesting for leather	ST-Plus Leather		+



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