KOMPAS-3D v24 Highlights

- **3D Modeling**: selecting multiple objects as a cross-section in the Revolution Element command; creating a body (or cutout) by sweeping a circle along a path (Tubular Element command); variable path length in the Sweep and Tube commands; editing assembly components without changing the source files (Deformation command); verifying variable ranges (Check Values command); face arrays (also supported in history-free models); reading and writing the Calc format (*.ods) without LibreOffice installed (used for handling model configurations, surfaces, and arrays); checking body definitions for consistency (Geometry Check command); copying and pasting components with CTRL+C and CTRL+V; and managing copy operations (Copy Management command).

- **Wireframe and Surface Modeling**: Selecting entire curves or fragments (the Select Curve Fragments button on the Quick Access Toolbar); mapping/unmapping curves and points onto an extruded or ruled surface (Mapped/Unmapped Curve commands); curvature analysis (Curvature Map command); constructing a mid-surface equidistant from two surfaces (Midsurface command); extending several surfaces simultaneously or a surface with edge simplification (Extend Surface command); rolling ball fillets (Fillet Surface command).

- **Direct Modeling**: Shifting faces in a specified direction or rotating them around an axis (Change Faces Position command); replacing a group of faces with another group (Replace Faces command).

- **Reverse Engineering**: Auto-detection of the surface type from the selected polygons (Fit Surface command); polygonal object fitting to a body or surface (Fit command); measuring the deviation between two bodies/surfaces/polygonal objects (Deviation Analysis command).

- **Model Export/Import**: default component file names when importing assemblies in STEP and JT formats; reading coordinate systems and object names from STEP files; reading Creo, Inventor, Catia, and SolidEdge models using the C3D kernel tools.

- **2D Documents**: Parametric arrays; linking title block text to any properties (including user-defined); simultaneous editing of properties for multiple components in the Product Structure Panel; automatic creation of the Documentation section in the associative BOM; automatic text hyphenation in BOMs.

- **Performance**: Improved phantom visualization in large assemblies; reduced opening time for assemblies with Empty-type components; quicker rebuilding of models based on the same object (for example, a set of points on the same surface).

- Other: Preservation of KOMPAS-3D window size and position between sessions; updated dialog for system and current document settings; new reference features (rounding property values to specified precision, warnings about lost references); deleting objects in lists and tables on the Parameter Panel and Product Composition Panel using the Delete key.

- **Mechanical Engineering Applications:**
  - Shafts and Mechanical Transmissions: design of transmissions directly in 3D assemblies; generation of photorealistic models of chain and belt drives; analysis and simulation of round-link chain drives.
  - Equipment: Pipelines: Route selection for point-to-point pipelines along the edges and diagonals of a parallelepiped; adding objects to Favorites when choosing a material or element from the database.
  - eCAD—KOMPAS Converter: Selectable local/remote POLINOM:MDM server; mapping a model to a component name using its item number; bounding box representation when there is no detailed model in POLINOM:MDM.