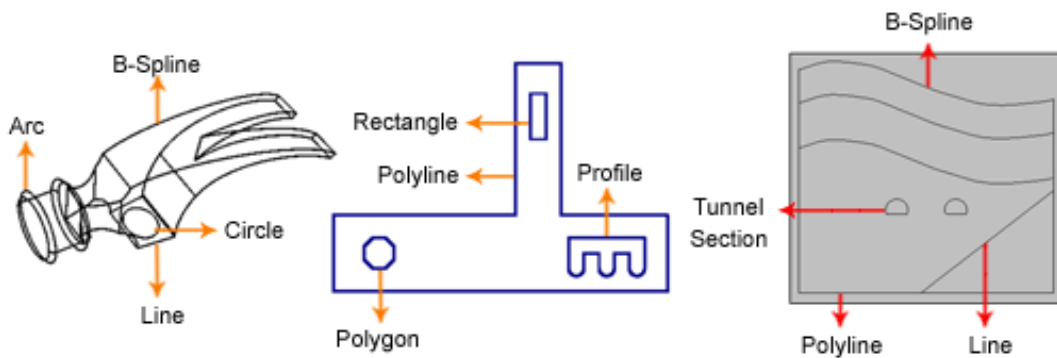


Geometry Modeling Curve Modeling

MIDAS/FX+ provides various high quality modeling functionality of a Mid-range CAD software.

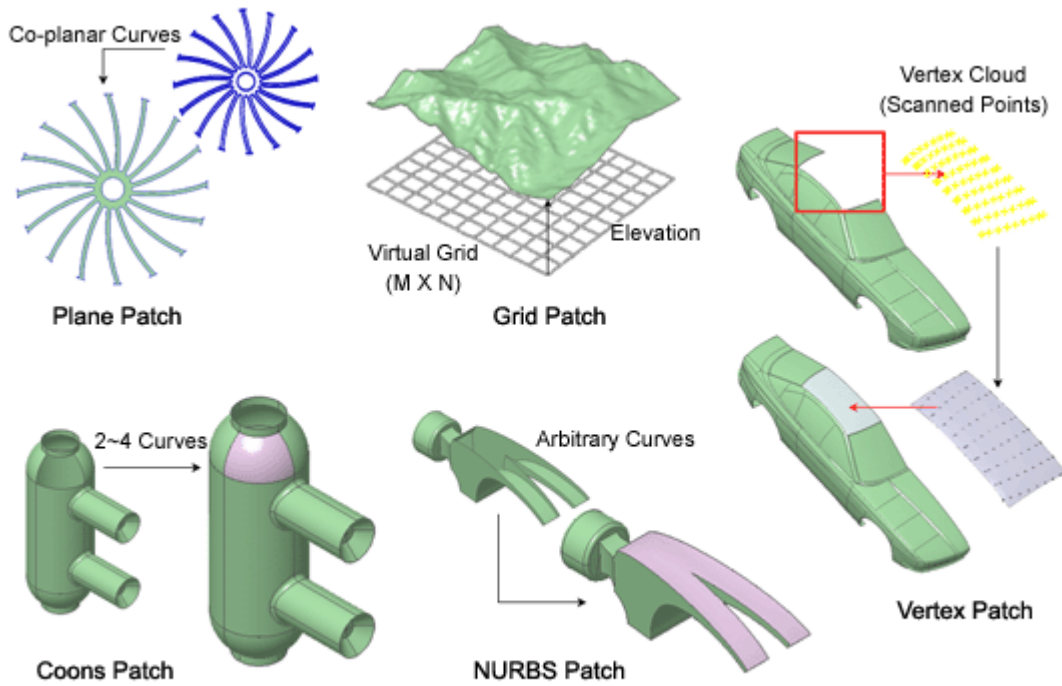
Curve Creation	Line, Arc, Circle, Rectangle, Polyline, Polygon, Spline, Parabola, Hyperbola, Profile, Tunnel Section, Offset, Tangent Line
Curve Modification	Fillet, Chamfer, Trim, Extend, Trim, Intersect, Merge, Break



<Curve Modeling>

Geometry Modeling
Surface Modeling

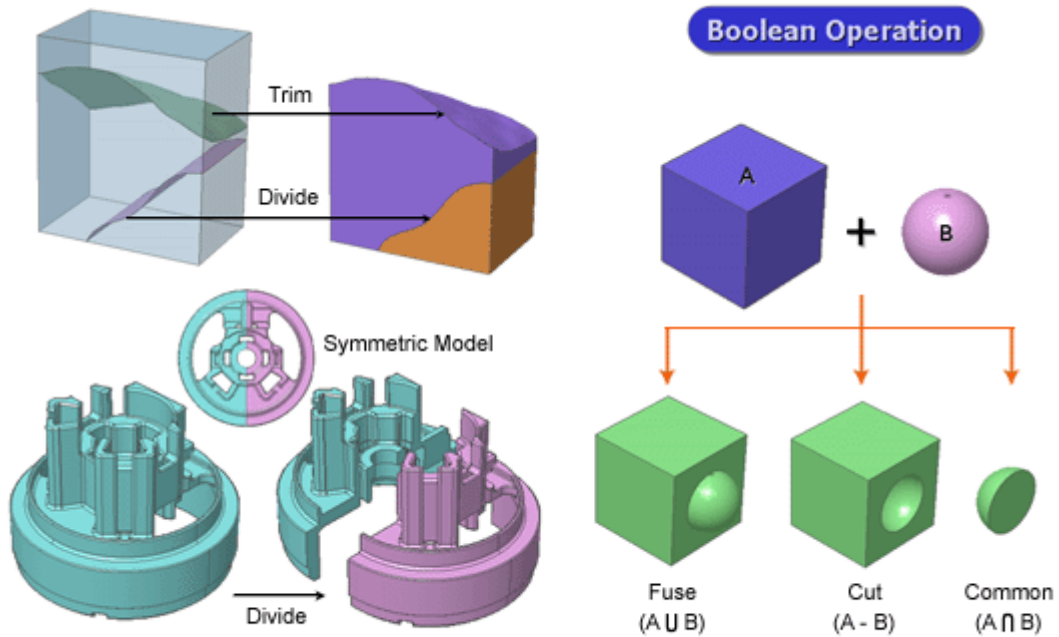
Primitive	Cylinder, Cone, Box, Wedge, Sphere, Torus	
Surface Patch	Plane Patch	Creation of a curved surface defined by a number of curves
	Coons Patch	Creation of a curved surface defined by 2~4 curves
	NURBS Patch	Creation of a most general 3-dimensional curved surface by filling in a shape bounded by and closed in by a number of curves with inner constraints of curves and points
	Grid Patch	Creation of a curved surface by specifying heights at Grid points on an imaginary Grid
	Vertex Cloud Patch	Creation of a curved surface, which encompasses all the selected vertices.
Surface Operation	Sew	Creation of a combined curved surface from selected contiguous curved surfaces
	Fuse	Combination of intersecting curved surfaces into a single surfaces
	Intersect	Creation of intersecting lines at the intersection of curved surfaces
	Trim	Trimming curved surfaces relative to a reference line
	Divide	Division of curved surfaces relative to a reference line
	Imprint	Imprinting points or lines on curved surfaces (reflected in Mesh)



<Surface Modeling>

Geometry Modeling
Solid Modeling

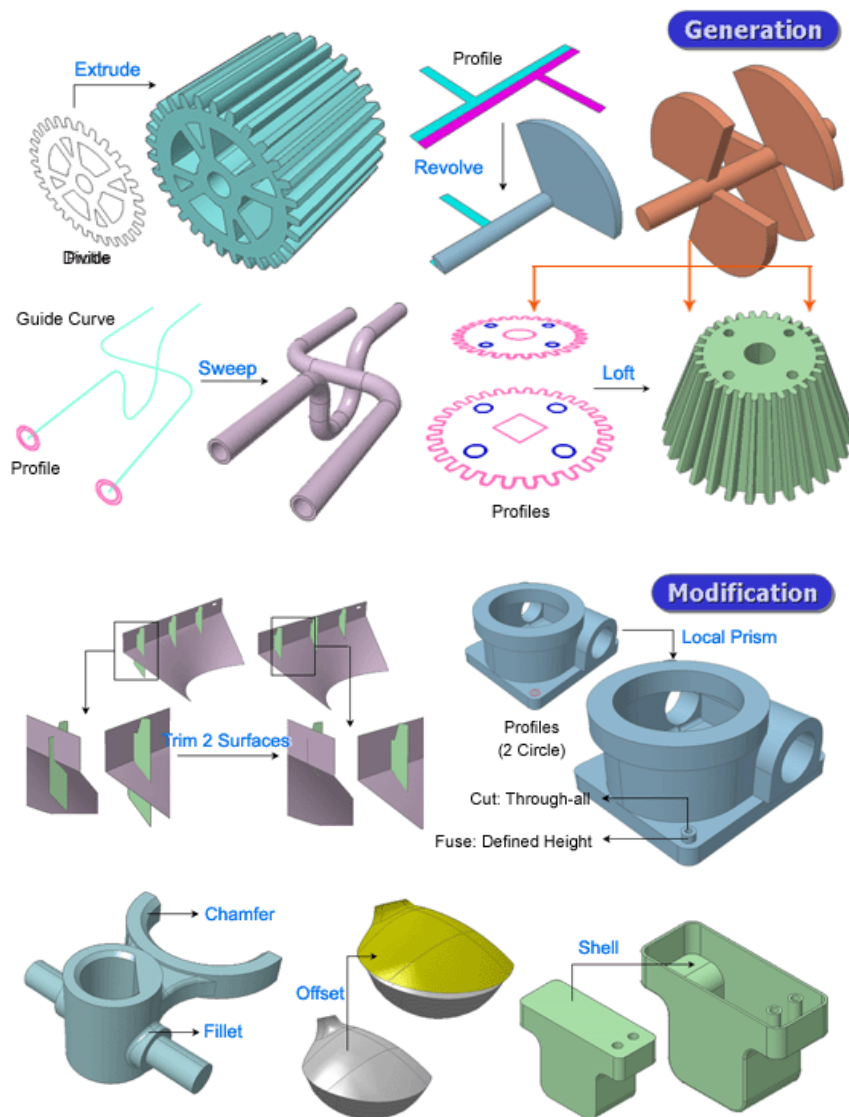
Primitive	Cylinder, Cone, Box, Wedge, Sphere, Torus	
Solid Operation	Divide	Division of Solids using reference surfaces (No limits to the type and number of reference surfaces)
	Trim	Trimming Solids using reference surfaces (No limits to the type and number of reference surfaces)
	Embed	Embedding a Solid into another Solid
Boolean Operation	Fuse, Cut, Common	



<Solid Modeling>

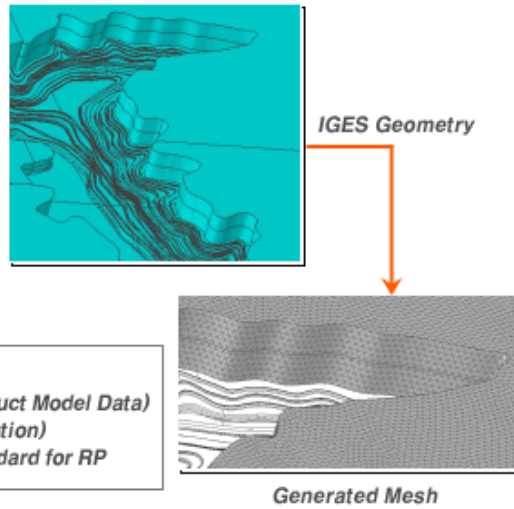
Geometry Modeling
Advanced Modeling

Surface/Solid Creation	Extrude, Revolve, Sweep, Loft
Surface/Solid Modification	Fillet, Chamfer, Draft, Offset, Shell, Local Prism
Geometry Manipulation	Translate, Rotate, Scale, Project, Attach, Extract, Explode, Compound
Geometry Check	Various properties check, Shape compatibility check and Duplication/Common check



Geometry Modeling Data Exchange

- **Import (Geometry)**
 - STEP, IGES, Parasolid
 - AutoCAD DXF (Wireframe)
 - STL (Mesh)
- **Export (Geometry)**
 - STEP, IGES
 - STL (Mesh)
- **Import (Analysis Data)**
 - MIDAS/Civil
 - Nastran

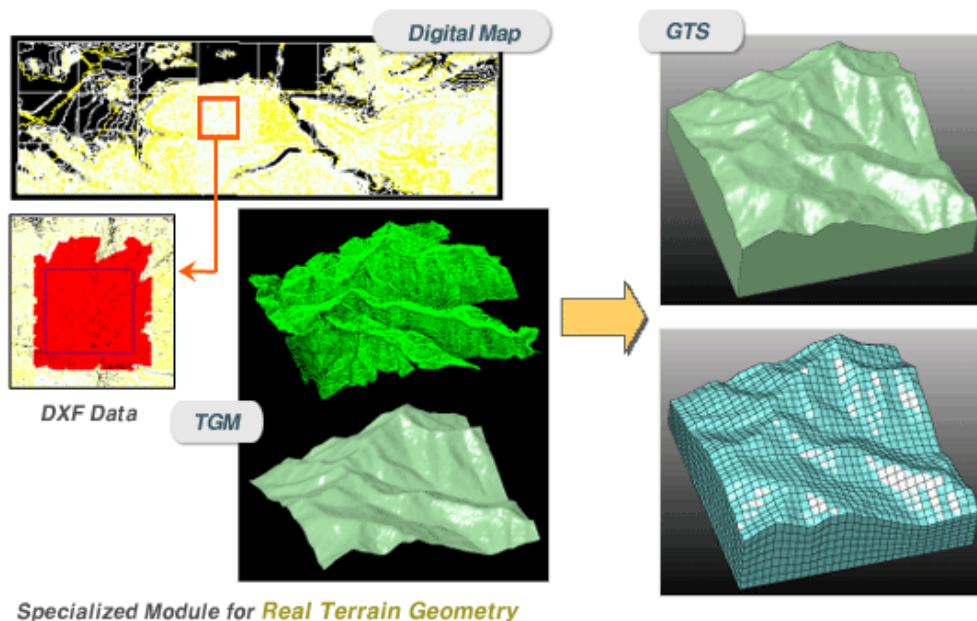


Standards for Data Exchange

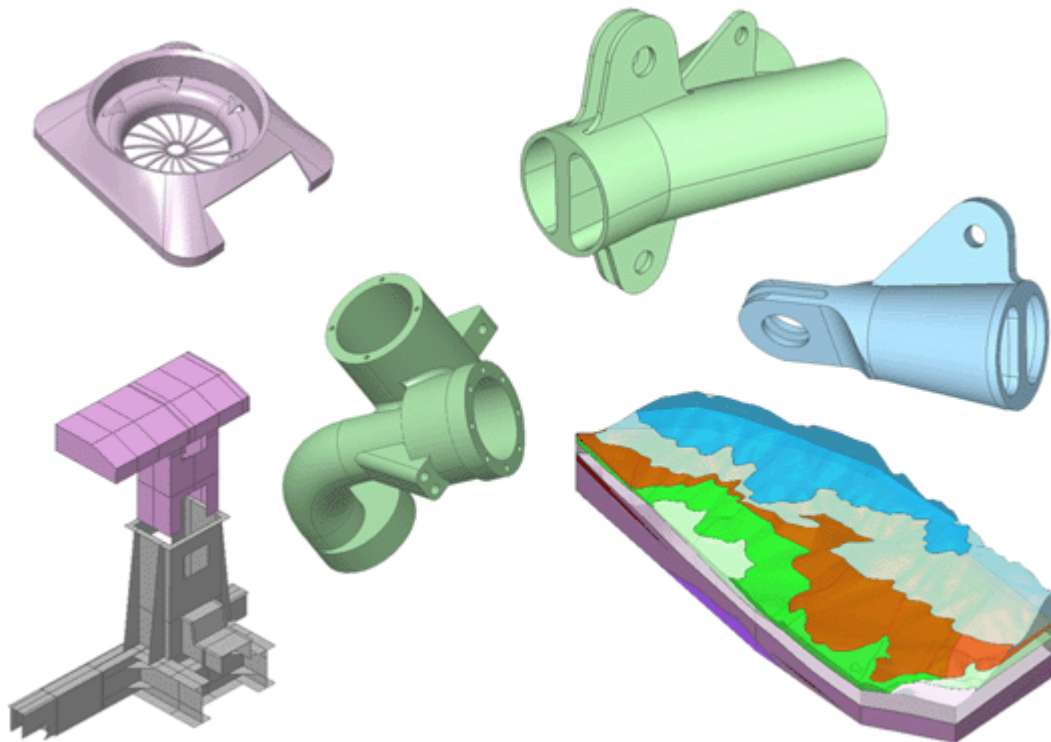
- STEP (STandard for the Exchange of Product Model Data)
- IGES (Initial Graphics Exchange Specification)
- STL (STereo Lithography) – De facto standard for RP

Geometry Modeling TGM (Terrain Geometry Maker)

TGM is an exclusive module program for MIDAS/FX+, which creates Geometry (Surface, Solid) representing complex ground surface information from a digital map (DXF format).



Geometry Modeling
Geometry Modeling Examples



<Geometry Modeling Examples>