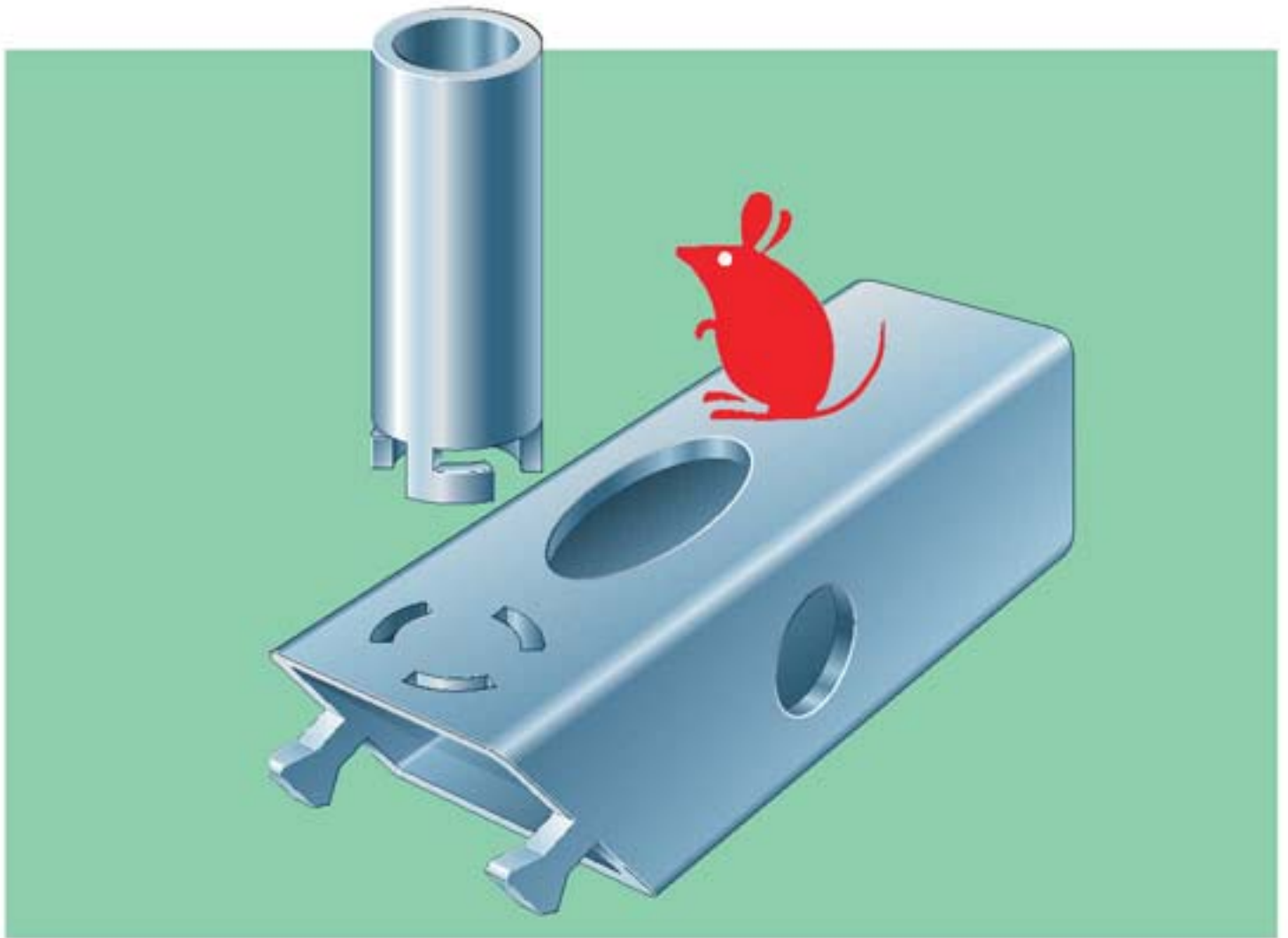


Controlling Machines with the Mouse

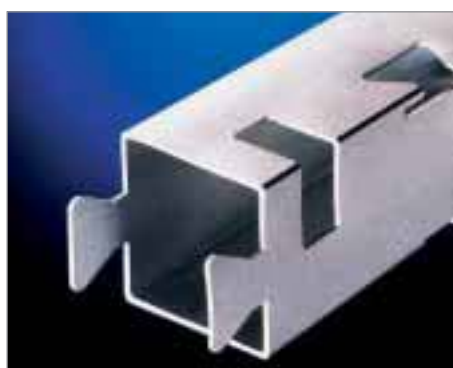


TRUMPF Programming System
for Tube Processing

ToPs 400



ToPs



400

Ensure your lead in laser processing of tubes with start-to-finish use of TRUMPF technology, both on the machine and in programming.

Programming System for Laser Processing of Tubes

ToPs 400 is a technology-oriented programming system specially developed for the laser processing of tubes on 2D TRUMPF machines.

ToPs 400 assists you in the process-reliable machining of tubes with TRUMPF's entire know-how by offering:

- Integrated standard cases for intersections.
- Laser tables and rules.
- Optimum NC programs for your machine.

3D Design: Integrated Know-How

Tube intersections and cutouts are created either with the integrated drawing module in ToPs 400 or imported from a CAD system in the form of unfolded layouts.

ToPs 400 is ideally supplemented by One Space SolidDesigner/SolidTube, a 3D CAD system. Solid Tube is specially tailored for fabrication-suitable design of tubes and profiles and their intersections.

Your advantages:

- Cut contours are prepared with the laser in mind.
- Shared database with ToPs 400.

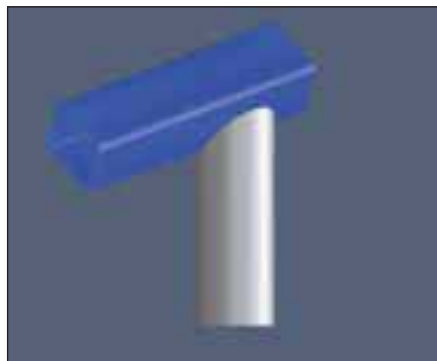
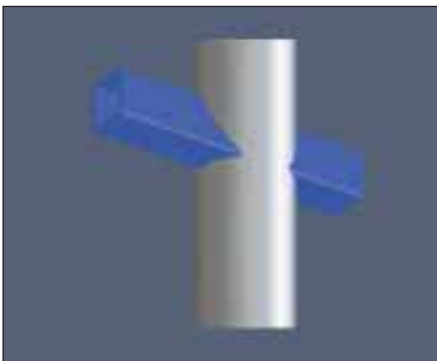
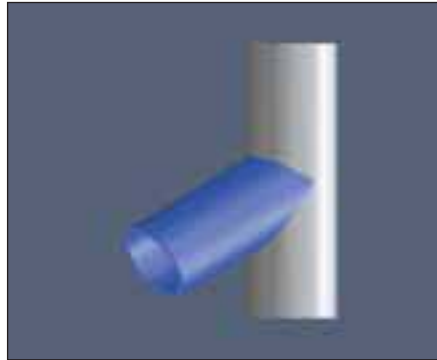
Continuity of the Tube Process Chain

ToPs 400 closes the tube process chain. Continuity of data flow is assured from the initial idea all the way to the finished part.

ToPs 400 acts as the interface between the Design and Production divisions:

- Design takes into consideration the fabrication requirements.
- ToPs assists you in technology-oriented programming in three steps:
 1. Create the geometry in ToPs or import it.
 2. Define the processing operations and generate the NC data.
 3. Transfer the data to the machine.
- In production, the machine's technological capabilities are fully utilized.

Standard cases: Two-Tube Design for Practical Applications



Structural steel work is just one example of many complex tube processing techniques. This sector has seen the increasing use of three-dimensional frameworks composed of tube intersections.

In designs with simple intersections consisting of two tubes, ToPs 400 does this work for you: all you have to do is enter the basic data about the intersection and ToPs takes care of the rest.

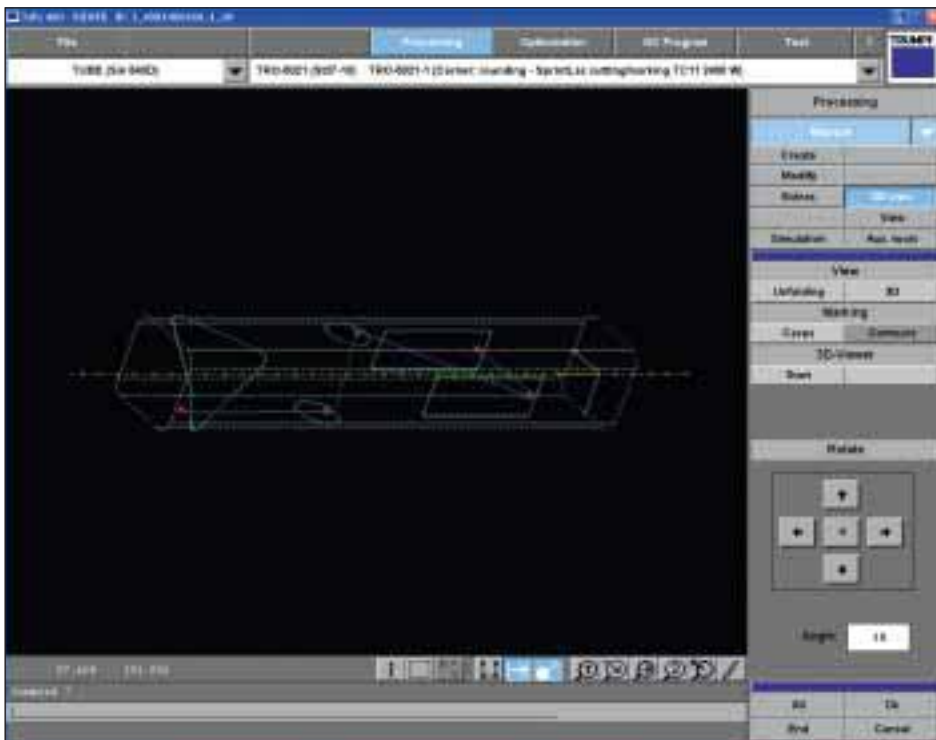
Four standard types of intersections are available:

- Plane cut
- Insertion
- Penetration (snap-in)
- Topping

You can very easily modify the cut geometry of a standard case generated by ToPs. Standard cases can be combined with each other and also with other drawings, as required.

Complex designs can be created with the 3D CAD system OneSpace SolidDesigner/ SolidTube.

Processing Simply automatic



As a prerequisite for defining the processing operations, the cut geometry must be analyzed. Based on the analysis that ToPs 400 makes for you, processing is defined automatically.

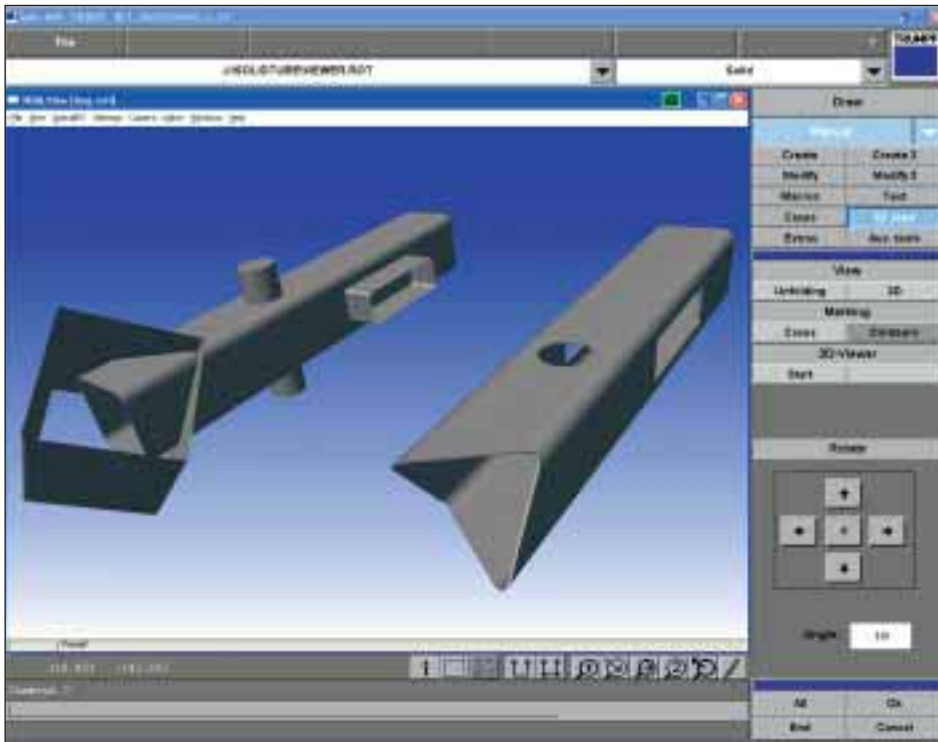
Complex tasks, such as machining the corners of rectangular tubes, are child's play for ToPs 400, and require no intervention on your part:

- Calculation of cut contours.
- Changing technology tables.
- Taking into account the Z axis motion.

All processing operations that you define yourself are checked automatically for contour violation.

ToPs 400 does not differentiate between simple and complex cutting geometries. Processing is generated swiftly and accurately for each tube and the NC program is produced.

Under Control 3D-Viewer



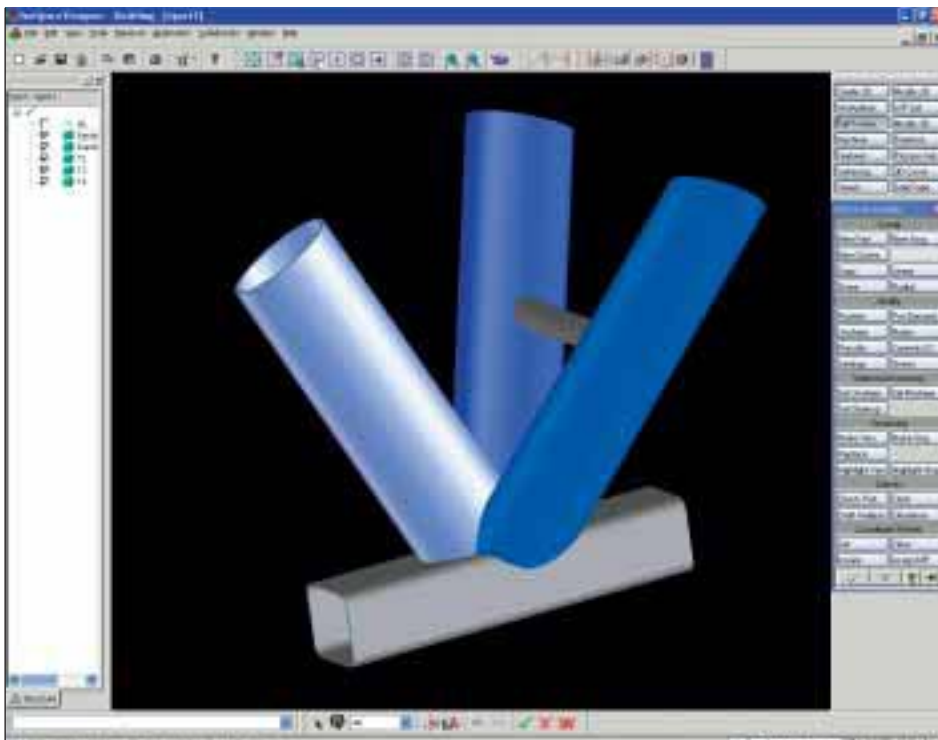
Confirmation before the first cut

Based on the data input for the intersections, ToPs 400 calculates the geometries of the intersecting tubes.

The 3D-Viewer can now display the finish-cut tube in 3D and, simultaneously in the same window, show the tube with its intersections. The tubes can be rotated (always parallel) to any desired angle.

The programmer can therefore see at one glance whether the cutouts are correct.

SolidTube and ToPs 400 Perfect Interaction

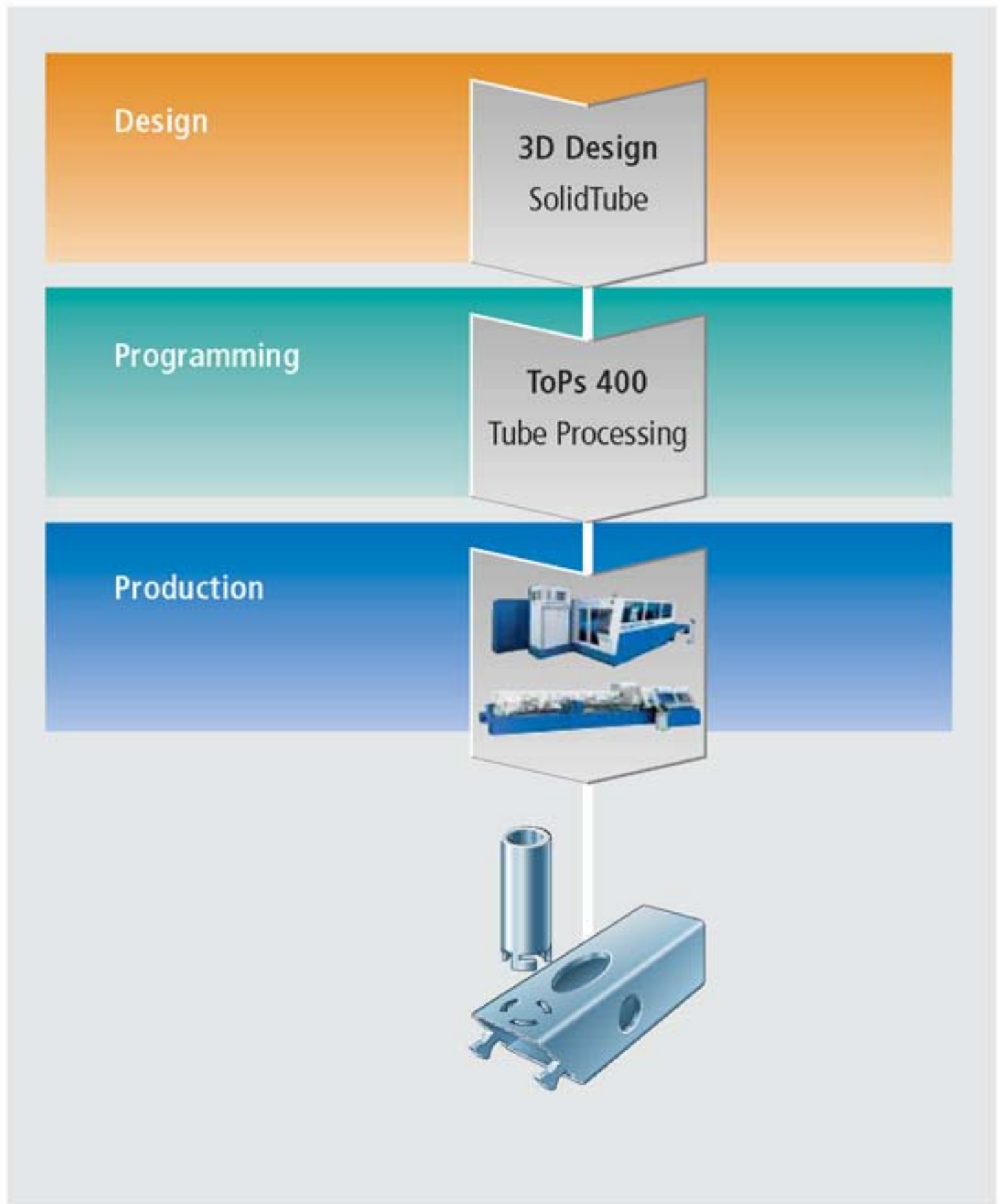


OneSpace Designer/SolidTube is a powerful software for 3D design of any type of tube and profile constructions, with more than two tubes intersecting at one node.

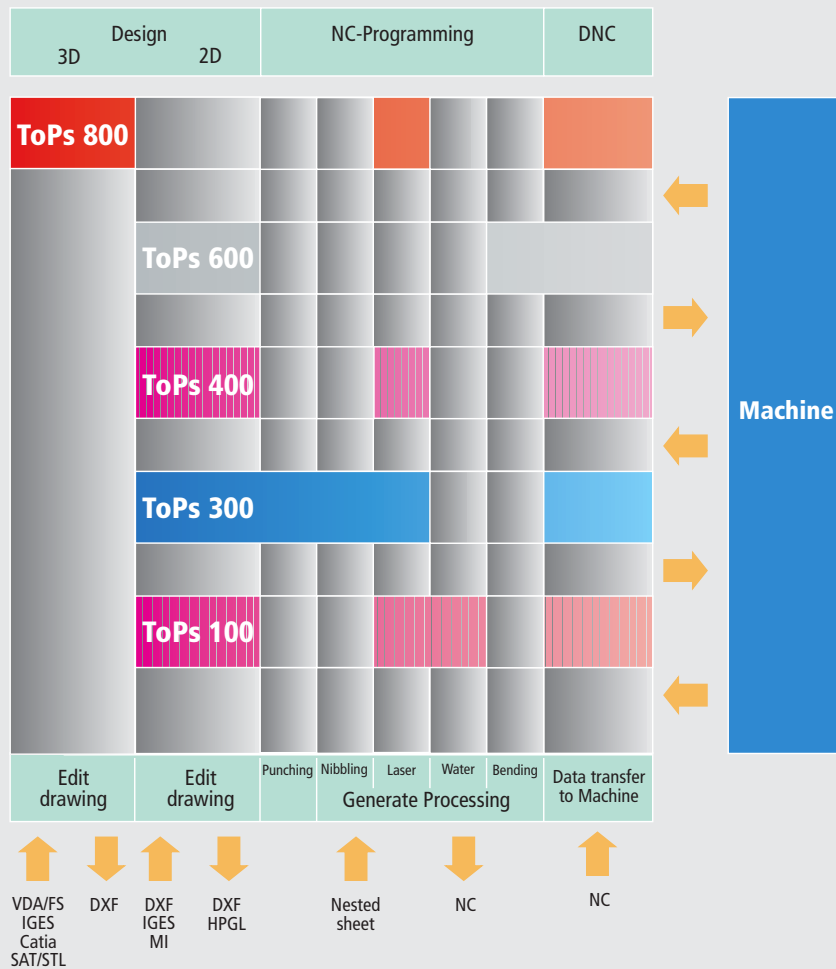
From the design data that is taken over, ToPs 400 generates the NC program which can then be run on a TRUMPF laser cutting center.

The Tube Process Chain

From the Idea to the Finished Product



The ToPs Series: Support for Every Technology



The programming systems from the ToPs series support the machining technologies of all TRUMPF machines.

- Programming system for Bending Technology:
ToPs 600
- Programming system for Combination Punching and Laser Processing:
ToPs 300
- Programming systems for 2D Laser Machining and Water Jet Cutting:
ToPs 100
- Programming systems for Tube and Pipe Machining:
ToPs 400
- Programming systems for 3D Laser Machining:
ToPs 800

TRUMPF is certified in accordance with DIN EN ISO 9001 and VDA 6.4.



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