

# Thorsten Loth

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## Jencad.....

....is a network

How does the optical path and diffraction vary? How about Injection-molded plastic lenses?

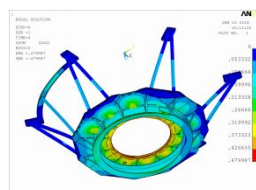
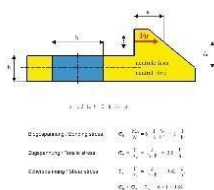
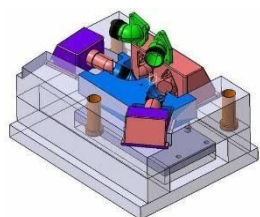
What about the shrinkage and draft angles of plastic parts?

We are a team of engineers with an interesting portfolio. I cannot answer those entire questions single handedly; this is how I created a network of engineers.

We are experienced mechanical engineers from power plant engineering to toolmaking combined with a designer, an electronics engineer, mechatronics engineer, factory planner and a physicist. We have recently added structural analysis into our portfolio bringing strong FEM and aeroelastic capabilities.

We work with all common CAD systems such as Creo, Solidworks, Inventor HiCAD and NX.

This enables us to handle larger and comprehensive projects, and show our competencies as an engineering consultancy in the German and International Market. On the other hand, the customer / R&D partner will have one contact person who will make sure that he handles the project acquiring the know-how from the team.



## Education

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Diploma: Tool Maker(Specialization: Mold Making)

Bachelor of Business Administration: (Guest student : University Jena)

Diploma: Machine Design (Westsächs. Fachhochschule Zwickau/ TU Ilmenau)

ESF-Stipendium

CAD Courses: Autodesk-Inventor Autodesk-Vault/ Creo / SolidWorks

Other Specializations:

Material Science specialization Plastics: TU Ilmenau

Construction and Design of Plastic Parts, Parameterization of Injection Molding machines.

Sampling and quality assurance of injection moulding tools (Arburg)

Dimensioning, design and quality assurance of plastic components (Kunststoffzentrum Stuttgart)

R&D Management: Steinbeis HS Prof. Vogel

Management seminar planning, personnel management and development in tool making (Top Consult - Dr. Zwicker)

CAD-Admin (Autodesk)

Seminar " Creative methods in the construction process " IHK Bildungszentrum Schwabenhaus

FEM application seminar, Uni Bayreuth Prof. Frank Rieg

## Project Lead: Construction of Tool shop/ Mechanical Workshop

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- For a large Dental Laboratory, Project Leader, Present Part-time Consultant
- Programming of a the frame design program together with Prof. Osten-Sacken (RWTH-Aachen)
- Design and development of Automatic assembly stations and injection molding tools.
- Construction of paper restoration machines: Drying and de-acidification.
- Vacuum and pressure vessels for gas de-acidification especially for papers subjected to lignin damage
- Basin for partial chamfering of paper sheets under partial vacuum
- Construction of an oscillating shelf system for paper drying
- Design and construction of a back carrier as an injection molded part with metal components

## Project lead: Medium Sized Tool Making Company

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- Project Design, Concept design, construction of injection molding tools and special machines
- Project management of Mechanical Design Services
- Optimization of Tools and plastic parts
- Commissioning, Tool Sampling and Acceptance
- Developed a technology rating tool for Laser Cladding with powder polishing.
- Design optimization of a 10-cavity injection mold for the production of connectors on cables in an automated cycle line at Bosch
- Construction of mounting devices adjacent to the tool
- Introduction of a production planning system

## Construction of Industrial Furnaces

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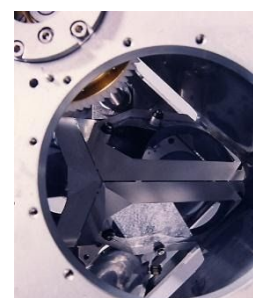
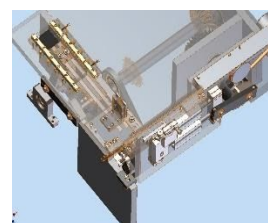
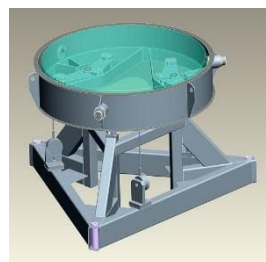
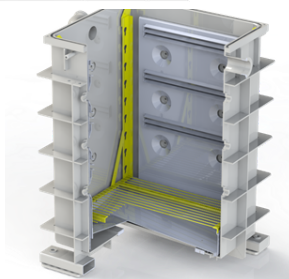
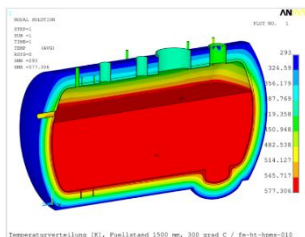
- Project planning and Construction of thermal and vacuum systems with in material-technical limits and for high vacuum rates.
- Vacuum furnaces with tungsten-molybdenum insulation
- Vacuum furnaces with integrated 5t press for soldering metal/ceramic joints
- Vacuum furnaces with ceramic fiber lining for oxidizing atmospheres
- Rotary (oscillating) furnace for cracking rare earth metals under hydrogen
- Construction of a mobile glove box for protective atmosphere applications
- Construction of water-cooled power supply lines 8000A
- Construction of charging racks from tungsten molybdenum, graphite and ceramics
- Construction of pressure vessels according to AD2000
- Design of pipelines and valves
- Optimization of processing (CNC cutting data)
- Professional guidance from colleagues
- Project preparation, project management
- Preparation of specifications
- CAD admin

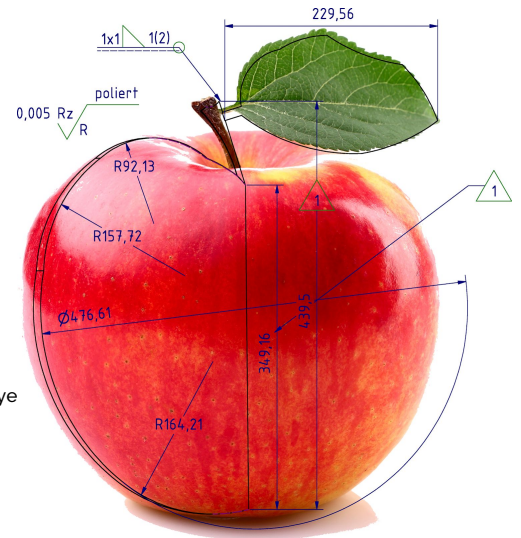
## Project Lead for Jencad

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- Present CEO of Jencad.
- Senior Construction Engineer: enbreeze 15 kW Small Wind Turbines
- Projects in vessel construction food industry, vacuum vessels
- Construction of a CNC milling machine for ceramic mirrors (aerospace)
- Optimization of a satellite chassis with regard to heat exchange/thermal voltages
- Creation of a CAD-supported modular system for heat exchangers (tube bundles)
- Construction of a shearing machine for the medical technology sector
- Development of a version for a vertical moss Urban garden "City tree"
- Project management and construction of a momentum-free light guide cable feed for a large ESA telescope
- Development of a vibration damper for fine adjustment of machine tools
- Construction of various plastic assemblies including injection molding tools (optics)Development of a 3D processing machine for porous plastics/foams
- Development of an automatic pipetting machine for Lab-on-a-Chip production
- Development of an optical sensor for grain inspection during the harvest process
- Construction of a carriage feeder for a furnace
- Collaboration in the development of a burner system for powdery fuels in the swirl chamber process, optimization and design of the feed and combustion chamber.
- Worked together in the team that developed a burner for pulverized combustion in the Swirl Chamber process especially in the optimization and design of the combustion chamber.
- Construction of a measuring and test aperture for ball screws of highest precision
- Optimization of a plastic housing for a linear actuator for high mechanical loads, replacement of a die-cast housing with a highly resilient plastics

- Construction of a vacuum seal for simultaneous rotation and linear movement
- Construction of a product carrier system for the production of camera modules
- Construction of a test unit for camera modules mech. / electronics.
- Construction of a system for the application of kit or adhesive beads 3D geometry
- Optimization of a small wind turbine with regard to possible simplification and manufacturing processes,
- Plant for weighing, packing, labeling of small pipe coils
- Development of an industrial camera housing
- Feeding and mounting unit for miniature magnets in plastic assemblies
- Optimization of a 15kW generator with regard to thermal management, weight reduction and manufacturing
- Development of mechanical manipulation controller units in vacuum
- Creation of a simulation for the flow velocity inside an industrial dryer (Ansys CFX)
- Development of an angular fine adjustment methods for optical applications.
- Managed the Simulation for sensor position for thermal distortion of a hot tank of molten salt
- Development of a cross roller bearing as pitch bearing with closed lubrication circuit
- Development of a quick adjustment with force spring accumulator in the precision mechanics sector
- Development of a 3D application unit for adhesives and sealants with additional angular axis for small cameras
- Development of a miniature sinter furnace under argon
- Development and construction of a rinsing dryer in the clean room area.
- Development of an injection-compression unit for Fresnel surface lenses for 3D displays





## Knowledge and Skills Thorsten Loth

Level: 1 = extremely comprehensive and up-to-date specialist knowledge, experience > 5 ye  
2 = confident mastery of the field of activity and, practice 2-5 years  
3 = Knowledge of the required expertise, practice <-2 years  
4 = Expertise available but no current practical experience

Skills	Level		Niveau		Niveau
R&D	1	<b>Project und Quality</b>		<b>Special Skills</b>	
Mechanical Design	1	Project lead and coordination	1	Precision Mechanics	2
Precision engineering	1	Requirements/ Specifications	1	Hydraulics	2
Calculation, Simulation	3	Controlling/ Reporting	2	Plastics Technology	1
Building team	1	Milestone planning	1	Laser Technology	2
Planning/ Project Management	1	Quality Assurance Planning	2	Biomedical engineering	3
<b>Mechanical Engineering</b>		Quality Improvement	2	Optics	3
Special Industrial Machines	1	Testing Design and Planning	3	Pneumatic	3
Paper making Machine	3	Measure, Correlate, Predict	2	Welding	2
Packing Machines	2	Supply-Chain-Management	3	Fluid Mechanics	1
Tool Making machines	2	Supply Chain/ Audits	2	Thermodynamics	2
<b>Resources</b>		Initial Sampling	1	R&D Management	1
Manufacturing Equipments	1	<b>Technical Writing</b>		<b>Software</b>	
Plastic Parts	1	Manuals, Hand books	3	Inventor 2015	1
Cutting Tools	3	Catalogues	3	SolidWorks 2013	2
Injection Molding Tools	1	Animation	2	Creo 3	2
Assembly/ Mounting elements	2	Information Technology		Ansys	2
Material Handling	3	Programming	4	Autocad 2015	4
<b>Automotive Engineering</b>		Software Development	4	Adobe Acrobat	2
Equipments	2	Documentation	2	Lotus Notes	2
Agriculture machinery	3	Test, Commissioning	2	MS Word 2015	1
Heavy construction machines	3	<b>Automation</b>		MS Excel 2015	1
Ship building	2	Instrumentation	3	MS Projekt 2015	1
Plant Construction		Automation	3	Corel Suite X7	1
Apparatus Design	2	Control	3	Gimp	2
Vessel Construction	2	<b>Electronics</b>		DIA	1
Piping Design	2	Microcontroller	3	Mathcad	3
Steel Construction	2	Sensors	3	MySQL	3
Vacuum Technology	2	Advisory/Consulting	3	Access	3
Consulting, Advising	3	Project management	2		
Project management	2	Quality Management	2		
Quality Assurance	2	Work Preparation	1		
Work Preparation	1	Administration/ Network	1		