

Profile of skills

Andreas Metzger

Metzger Engineering Untermarchtal



Personal details:

Date of birth: 26.12.1974

Marital status: married

Nationality: German



Work experience:

Since 2016:	Working in-house at Metzger Engineering as a freelance engineer in general mechanical engineering with a focus on design, development and calculation Contact details: Metzger Engineering Andreas Metzger Lindenweg 7 89617 Untermarchtal Phone: 07393 - 8869478 FAX: 07393 - 8869299 Cell phone: 0176 - 45833634 Mail: info@metzger-engineering.de Web: http://www.metzger-engineering.de Further technical skills in addition to those described below: Further technical skills in addition to those described below: • Heating technology • Alternative energy • Energy-saving technology
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Since 01/2026	Contract work for services for a well-known engine manufacturer Creo Parametric 12 und Windchill • Processing design and drawing changes for parts and assemblies in engine manufacturing • Creating assembly and part models • Modifying bills of materials in SAP • Creating and updating drawings
7/2025 – 7/2025	Design of an iris scanner with drawing creation according to ISO GPS standard using Creo 11 and Windchill • Preparation of an analysis of end customer-specific requirements • Creation of a design concept based on existing models and drawings • Creation of 3D models, assemblies and production drawings • Creation and modification of plastic parts with tolerance analyses
5/2023 – 05/2025	Power generators for military use with Creo Parametric 9, Windchill and SAP • Implementation of air flow concepts • Frame constructions • Design of piping for combustion engines and preheaters • Design of cable ducts • Creation of 3D models, assemblies and production drawings
3/2023 – 5/2023	Design of a steel structure with lifting units for port logistics (see high-bay warehouse) with Creo Parametric and SAP • Design work for welded constructions and assembly modules • Drawing modifications and new creations • Creation of models and drawings for different variants (sizes and stroke lengths)

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3/2022 – 3/2023	Development of a new type of production line in the automotive industry (vehicle accumulator sector) with PTC Creo Elements and Windchill • Design and development of automation components as prototypes • Participation in the procurement of parts • Construction and prototype systems
10/2021 – 3/2022	Collaboration in an exciting project in automation technology/packaging machines with PTC Creo Elements and Windchill • Series production support in automation technology • Development of special designs to meet customer requirements
6/2021 – 8/2021	Series support for the packaging machine from 2017 • Implementation of modified assemblies into the machine developed in 2017 • Redesign of existing assemblies according to customer requirements • Adaptation or scaling of the packaging machine
7/2019 – 6/2021	Collaboration in an exciting project for international end customers in automation technology • Series production support in automation technology • Development of special designs to meet customer requirements
12/2018 – 6/2019	Design of mirror carriers in the optics industry with Creo Parametric and SAP • Design of various clamping devices for glass mirrors in different sizes (up to approx. 350 kg) for machine processing.

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9/2018 – 11/2018	Constructive realization of soupapes drillings in profile moulds for the injection moulding of tire profiles • Incorporation of holes for valves to allow air to escape in the molds of various tire models CAD-Program: SolidWorks
6/2018 – 8/2018	(Further-) development of a topping gun for the industrial and catering sector - Food-safe design with SolidWorks • Design and development of a topping gun for use in bakeries/pastry shops or in the industrial sector • CAD-Drawings • Development of the design and provision of CAD models • Presentation of the results to the customer • Creation of documentation and overviews
3/2018 – 9/2018	Design of automation lines with PTC Creo Elements and Model Manager, SAP Tasks: • Design of grippers, stacker units, sorting belts and control modules • CAD-Drawings • Development of the design and provision of CAD models • Presentation of the results to the customer • Creation of documentation and overviews
4/2017 – 12/2017	Development of a new type of packaging machine in the food sector with PTC Creo Elements and Model Manager, SAP

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10/2016 – 3/2017	• Development of proposed solutions for the realization of individual sub-functions • Combination of partial solutions to form an overall machine concept • Development of the design and provision of CAD models • Presentation of the results to the customer • Creation of documentation and overviews Development and design of standardized tower internals for wind turbines with PTC Creo 3 and Windchill • Construction of storey platforms in the wind turbine tower • Construction of various other assemblies for installation in the tower, such as ladder internals, hatch covers, shadow modules, etc.
4/2010 – 12/2015	Engineering office Wack, Ehingen/ Donau Design and development engineer Processing of the following customer projects with PTC Creo Elements, ME10, SolidWorks, Inventor: • Assemblies on mobile and crawler cranes, e.g. welded steel structures and attachments on slewing platforms, lattice sections and ballast attachments, drive units, unit carriers, milled and turned parts such as flanges, shafts Mounting assemblies such as fall protection, urea systems, rotary feedthroughs, battery boxes, attachment of central lubrication systems, steel pipe and hose line assemblies for hydraulic assemblies, exhaust systems, cooling circuit for drive units

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	Sheet metal and GRP constructions such as revolving platform cladding, engine cladding, exhaust systems • Co-development and constructive elaboration of assemblies for a large parasol project, such as welded steel construction of the main mast with attachments such as platforms and consoles, boom (detail) construction, Interior fittings with platforms, passenger elevator, hydraulic piping, cable ducts, Mechanical construction for opening the upper canopy covers (flaps) with hydraulic cylinders Designing the interior of the machine and control rooms such as unit carriers, hydraulic tank with associated pipe and hose lines, assembly assemblies of all possible unit assemblies, frame constructions for stairs and accessible work surfaces with gratings Sheet metal bending constructions, cast parts, milled and turned parts Creation of documentation with models and drawings for the assembly of control cabinets • Design of handling technology in the automotive sector, in this case: specifically constructive elaboration of the individual stations in the assembly and/or testing of components for the automotive industry, such as a rotary table system for functional testing of sensor systems installed in vehicle door handles for the keyless entry function a gripper system for stacking and re-sorting work piece holders (blisters) during belt transport
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	Conveyor belts and associated protective equipment (covers and enclosures for the conveyor belts) • Pre-dimensioning and strength calculations for a wide range of designs for all customer projects, also FEA-supported with Ansys Workbench
03/2010	Mantz Stadthygiene GmbH in Ehingen Employee at the local urban hygiene Company Tasks: • Carrying out camera inspections during new sewer construction to bridge the gap during job searches (for employment and to ensure social security for the family)
10/2009 – 02/2010	planetroll GmbH & Co. KG in Munderkingen Design Engineer CAD-System: Inventor Tasks: • Design of agitator and drive technology with Design of agitator shafts with associated electric drives, container agitator, stand agitator, portal agitator • 3D-Design and CAD-Drawings • Creation of bills of materials • Technical order processing • Creation of strength verifications • Technical Documentation
07/1995 – 10/2004	Soldier in the military air traffic services with a commitment period of twelve years in the German Air Force Career: Flight advisor/Flight data specialist Last Rank: Staff Sergeant (NATO-Rank OR 6)

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	Tasks: • Professional training and development of subordinated staff • Approximately six years as leader of a rotating shift team in various areas of military Air Traffic Service, in 2000 in a multinational unit (NATO AWACS E3A squadron in Geilenkirchen) During that time supporting the flight crews through Planning flight routes and drawing up flight plans for Squadrons and units of German Air Force and NATO Air Squadron missions in Geilenkirchen Collection and analysis of all data necessary and relevant for flight preparation Organization and coordination of the timely transmission of flight-relevant information for flight operations to all Air Traffic Control (ATC) units concerned. Informing the aircraft crews about flight-relevant circumstances in the context of collective crew briefings, or as individual consultations with the aircraft crew (pilot and co-pilot), predominantly in English Leading the shift team of the Aeronautical Information Service (AIS) and coordinating the work processes within the shift operation to ensure trouble-free flight operations
Apprenticeship:	
10/2004 – 02/2009	University of Applied Sciences in Rüsselsheim Study of Mechanical Engineering, focussed on mechanical design, Development and strength calculations, alternative Energies and fluid energy machines Graduation: Dipl.-Ing. (FH) (Final mark:1,3)

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	CAD-Systeme: SolidWorks, Siemens NX FEA: Ansys Workbench Simulation: Adams View Final thesis: Theoretical and experimental cost optimization of precious metal components in glass production. Company: Schott AG, Mainz CAD-System: IDEAS FEA: Ansys Workbench/Classic Practical semester: Company: Vaihinger GmbH, 65520 Bad-Camberg Erbach CAD-Sytem: SolidWorks Tasks: • Development and design of an integrated cleaning system for cream vending machines from the initial idea to the functional prototype Completion of the prototype within 5 weeks, receipt of a patent payment as a recognition • Development and design of an alternative air supply system for cream whippers as an additional student research project • Technical changes and product adaptations • Creation, management and documentation of technical drawings • Carrying out and recording functional tests (and trials) Investigating the possibility of producing "cold" milk foam with the cream dispensers. This area of application for the machines is now an integral part of Vaihinger's marketing concept
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08/1993 – 08/1994	Industrial school Ehingen (Donau) Graduation: Advanced technical college certificate (Mark: 3)
Competencies:	
EDP subject-specific:	CAD: Main programs in freelance work: • Creo Elements (Direct Modelling with Model Manager) in versions 17–20 • SolidWorks (all versions) • Creo Parametric with Windchill and SAP Further experience with: Creo 2 to 9 with Windchill (current project in the field of design and development work for wind turbines) CATIA V5 (Program training in 2009), SolidWorks (during studies, internships and occasionally in the last job), Siemens UG NX (in the main study program), Inventor (4 months), PTC Creo Elements–Direct Modelling (a total of 6 years at the Wack engineering office), ME10 (Parallel use with PTC Creo Elements), IDEAS (shortly during the diploma thesis at SCHOTT AG in Mainz),

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	Ansys (during my studies, in my diploma thesis and also during my last employment at Ingenieurbüro Wack), Simulation: Adams View (in study) ERP/PPS/PDM....: Windchill, ModelManager, Bäurer Kifos, Phoenix, BAAN, SAP ...
Technique:	Metal knowledge (steel, aluminum, non-ferrous metals), plastics knowledge, lightweight construction, machining processes, castings, welding, assembly processes, handling technology, sheet metal constructions (cladding, enclosures, ...) Installation constructions for drive units, urea systems,
Specialty area:	• Construction machinery and special machinery • Automation technology
Languages:	English (good to very good), Spanish (basic knowledge),