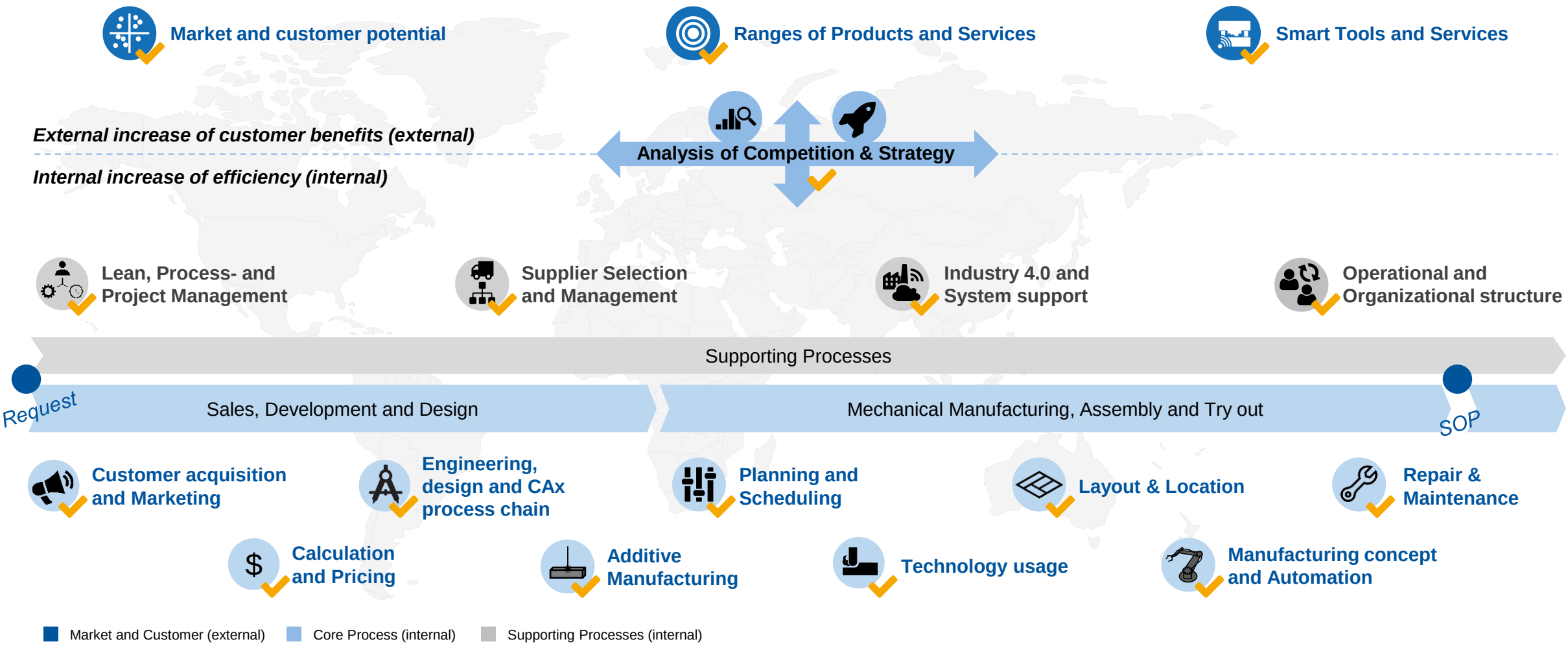
WBA
WERKZEUGBAU
AKADEMIE

References Consulting Services

Project focus Market & Customer

Consulting Services
Overview of Topics and Content of our Consulting Portfolio



Consulting Services
Topics and Content in detail (I/II)

Market & Customer

Market and customer potential

- Analysis of technological trends
- Analysis of market sizes and developments
- Determination of potentials for distribution and procurement
- Identification of potential customers and buyers

Range of products and services

- Analysis of market and customer demands
- Analysis of the company specific range of services
- Analysis of core competencies
- Development of service and business models

Intelligent tools and services

- Analysis of internal and external requirements
- Selection of sensors and actuators
- Conception of company-wide service platforms
- Development of databased services and business models

Competition & Strategy

Analysis of competition and strategy

- Benchmarking for the determination of the organizational and technological performance
- Identification of action fields
- Identification of strategical success factors and strategy development
- Development of an implementation roadmap and deduction of specific measures

Supporting Processes

Lean, Process- and Project Management

- Process analysis and process design
- Definition of key performance indicators and IT-based illustration
- Conception and implementation of a (digital) shop floor management
- Definition and implementation of agile methods of project management

Supplier selection and management

- Definition of scopes and relevant processes for procurement
- Identification, assessment and selection of suppliers
- Initiation and development of strategic partnerships
- Holistic assessment of options for national and international tool supply

Industry 4.0 and System support

- Analysis and maturity assessment of the Industry 4.0 status quo
- Development of objectives, concepts and roadmaps including investment budgeting for Industry 4.0
- Deduction of specific Industry 4.0 use cases including implementation support
- Recording and analysis of machine and production data

Operational and organizational structure

- Analysis of organizational structures and assessment of the degree of value creation
- Procedural and organizational reorganizational
- Conception and implementation of agile structures of organizational
- Deduction of measures for the organizational change

Consulting Services
Topics and Content in detail (II/II)

Core Processes

Customer acquisition and marketing

- Analysis of market and customer demands
- Development of strategies for distribution and marketing
- Identification and selection of relevant instruments for marketing
- Fine adjustments of selected analogue and digital instruments for marketing

Calculation and Pricing

- Analysis and optimization of the used methods of calculation
- Analysis of conducted calculations for cost optimization
- Development of solutions for data capturing and provision
- Definition of requirements and selection of calculation software

Planning and Scheduling

- Manufacturing process analysis and derivation of standard manufacturing processes
- Conception of a virtual/physical segmentation and clocking
- Conception of hard- and software for data capturing and provision
- Definition of requirements and selection of planning software systems

Layout and Location

- Analysis and optimization of the material flow
- Basic and fine layout design and optimization
- Conception and further specification of logistics concepts
- Planning and support for relocation and transfer to existing and newly built locations

Repair and Maintenance

- Data capturing and analysis as well as definition of KPIs during the process to increase transparency
- Optimization of spare part management by analysis of tool life as well as process definition
- Development of concepts for predictive maintenance and repair

Engineering, design and CAx process chain

- Conception and introduction of synchronised and agile product design processes
- Assessment and optimization of the standardization for tools and tool components
- Definition of requirements and selection of CAx systems
- Analysis and optimization of the CAx process chain

Additive Manufacturing

- Identification of technological fields of application
- Analysis of requirements and benefits with regard to the spectrum of work pieces
- Assessment of the technologies and machine selection
- Additive manufacturing integration in existing process chains with focus on subsequent processing

Technology usage

- Definition and improvement of the manufacturing performance
- Technology assessment and profitability assessment
- Analysis and optimization of manufacturing processes and methods
- Analysis and optimization of the operating times, idle times and set-up times

Manufacturing concept and Automation

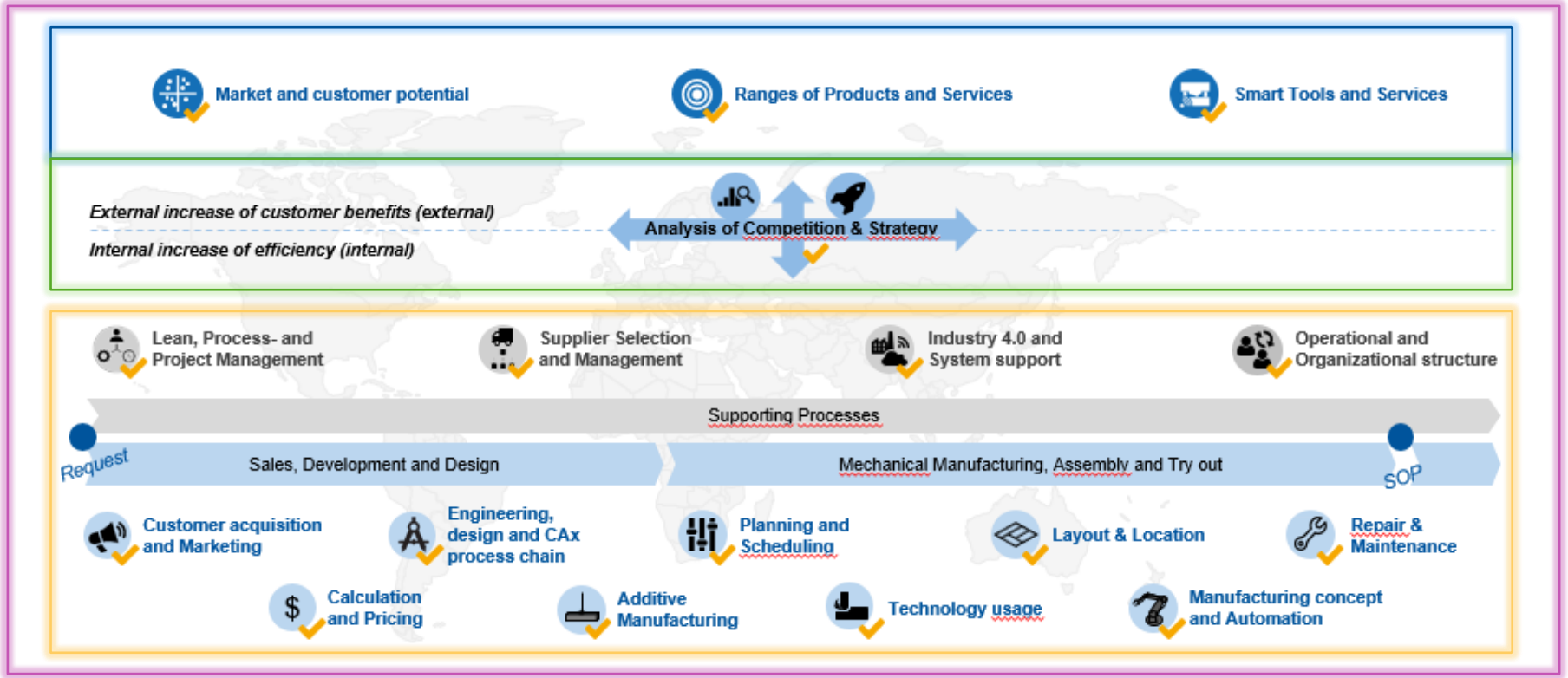
- Analysis of the actual and future range of tools and components
- Development of a manufacturing concept and technology road-mapping
- Analysis of requirements, specification and selection of machines
- Conception and selection of automation solutions

Consulting Portfolio

Within the consulting projects are four different project focuses

Market & Customer

Competition & Strategy

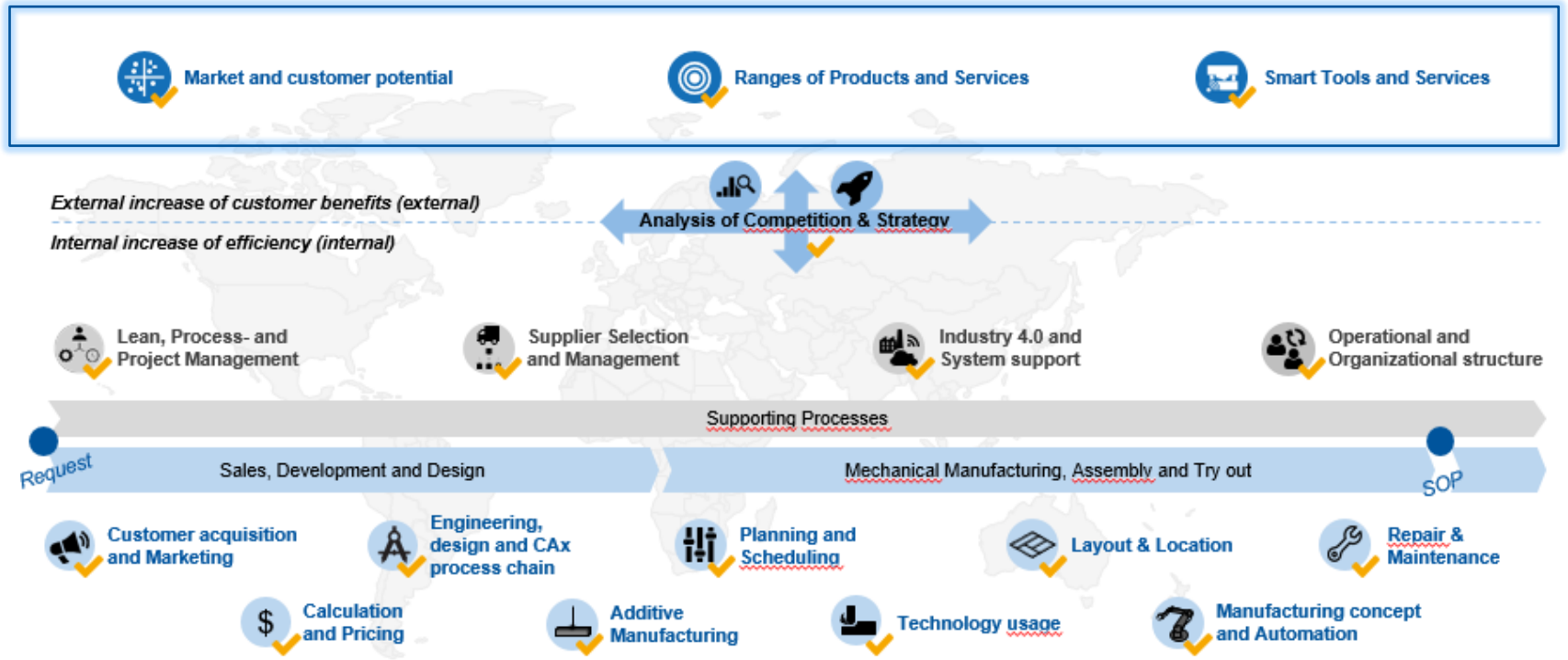


Supporting Processes

Individual Combination

Consulting Portfolio
Market & Customer

Market & Customer

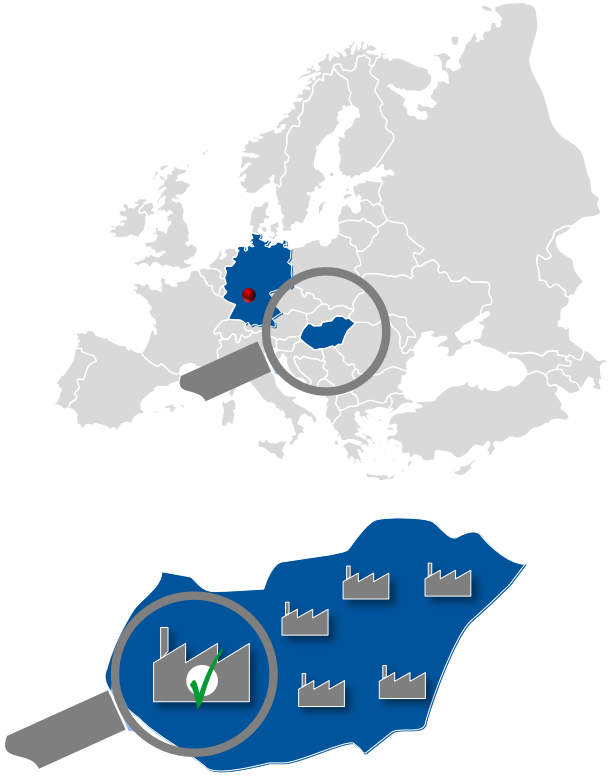


Identification of new suppliers for the machining of large parts for the Audi Tool Room

Approach

- Design of a standardized requirements profile for new suppliers of the Audi tool room
  - Definition of a standardized requirements profile
  - Design of a questionnaire for the evaluation of suppliers
- Identification and evaluation of potential suppliers for the Audi tool room
  - Identification of potential suppliers in Central Europe
  - Mailing of questionnaires and support of suppliers
  - Evaluation of suppliers and documentation of competence profiles with regards to countries and companies

Audi Werkzeugbau



Result

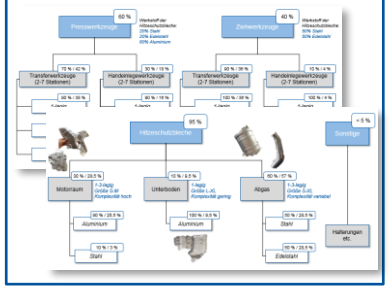
► **“The systematic approach as well as excellent documentation of the WZL has increased our market knowledge and improved our supplier management.“ Herbert Peierl (Audi Tool Room)**

Identification and assessment of potential customers for the tool shop of Bilsing Automation GmbH

Approach

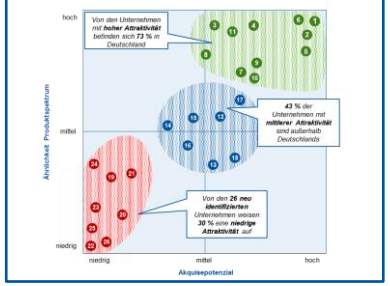
- Recording of the tool and product range of the tool shop of Bilsing Automation
- Identification of potential sales markets for tools for heat shield manufacturing
- Identification of potential customers for the tool shop of Bilsing Automation
- Assessment of identified companies regarding the potential of acquisition, accessibility of information as well as information regarding market competitors and size of order
- Assessment of attractiveness of identified companies depending on potential of acquisition and similarities regarding product ranges
- Preparation of company profiles of potential customers for the tool shop of Bilsing Automation

1 Tool and product range

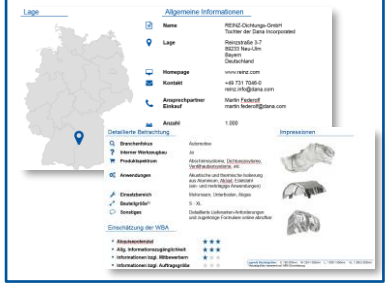


2 Potential sales markets

3 Assessment of attractiveness



4 Company profiles



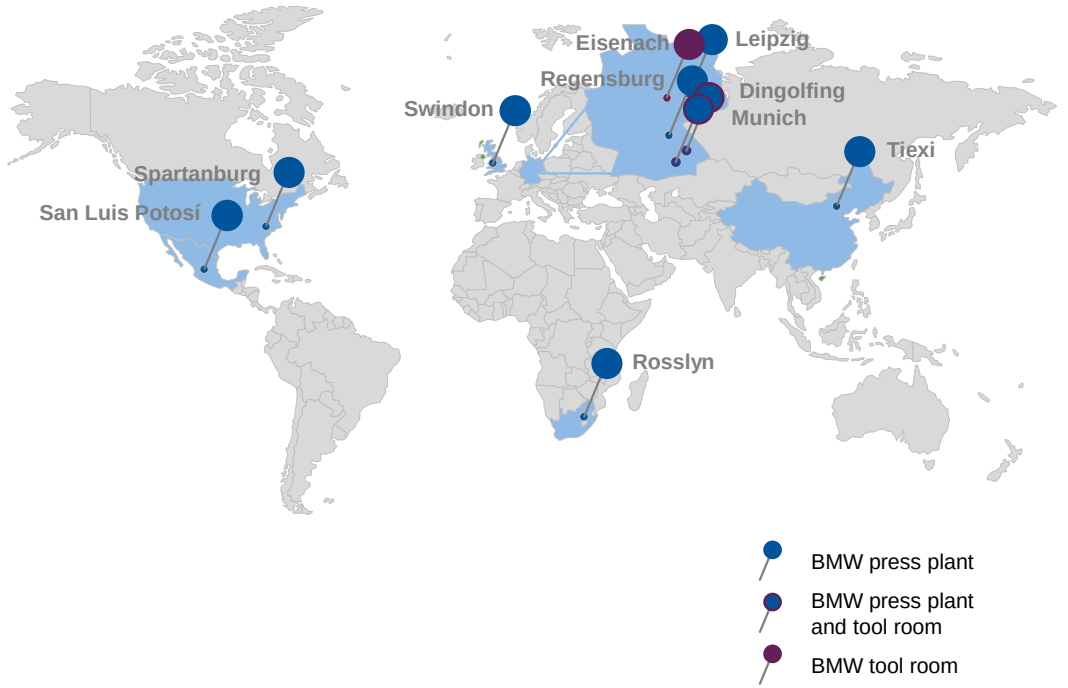
Results

- ► **Identification of European sales markets for tools for heat shield manufacturing**
- ► **Company profiles of potential customers for the tool shop of Bilsing Automation**

Tool supply concept of the future for all international production sites

Approach

- Joint description of determining factors and prerequisites of the BMW Group
- Execution of international market surveys for the identification of eligible sourcing regions
- Execution of international market studies for the identification of potential supplying tool rooms
- Development of scenarios for future tool supply and correlation with the ideal internal tool room
- Drafting of a roadmap for the implementation of the tool supply concept of the future



Results

- ► **Development of a concept for the tool supply of the future for all international production sites**
- ► **Identification of potential tool rooms in international sourcing markets**

Benchmarking-study for the performance evaluation of tool making in China

Approach

- Project execution in cooperation with the companies BMW, Daimler and ZF
- Identification of potential tool shops with the requested product range
- Development of a benchmarking questionnaire for the collection of key figures
- Supervision of Chinese workers in the companies during the completion of the questionnaires
- Evaluation of key figures and on-site auditing of the best performing companies
- Determination of potential suppliers and future partner companies

Results

- ► **Performance evaluation of tool makers in China**
- ► **Identification of potential suppliers and future partner companies**

Benchmarking study for the evaluation of the performance of mould making in China

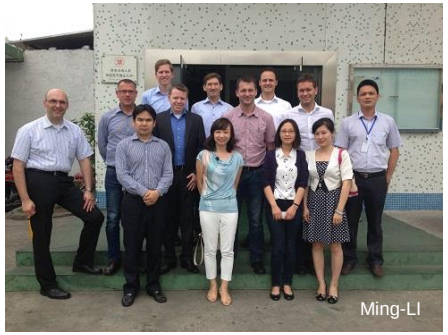
Approach

- Project realization in cooperation with B.Braun, Gerresheimer und HARTING
- Identification of 482 potential tool shops in the range of high precision and multi cavity mould making
- Creation of a benchmarking questionnaire for collection of specific performance indicators
- Provision of support to tool shops for filling out questionnaire by Chinese employees
- Evaluation of 132 tool shops based on performance indicators and auditing of most capable 13 tool shops on site
- Identification of potential suitable suppliers and future partner tool shops


Lead Mould


Ming-Li


Ming-Li


Ming-LI

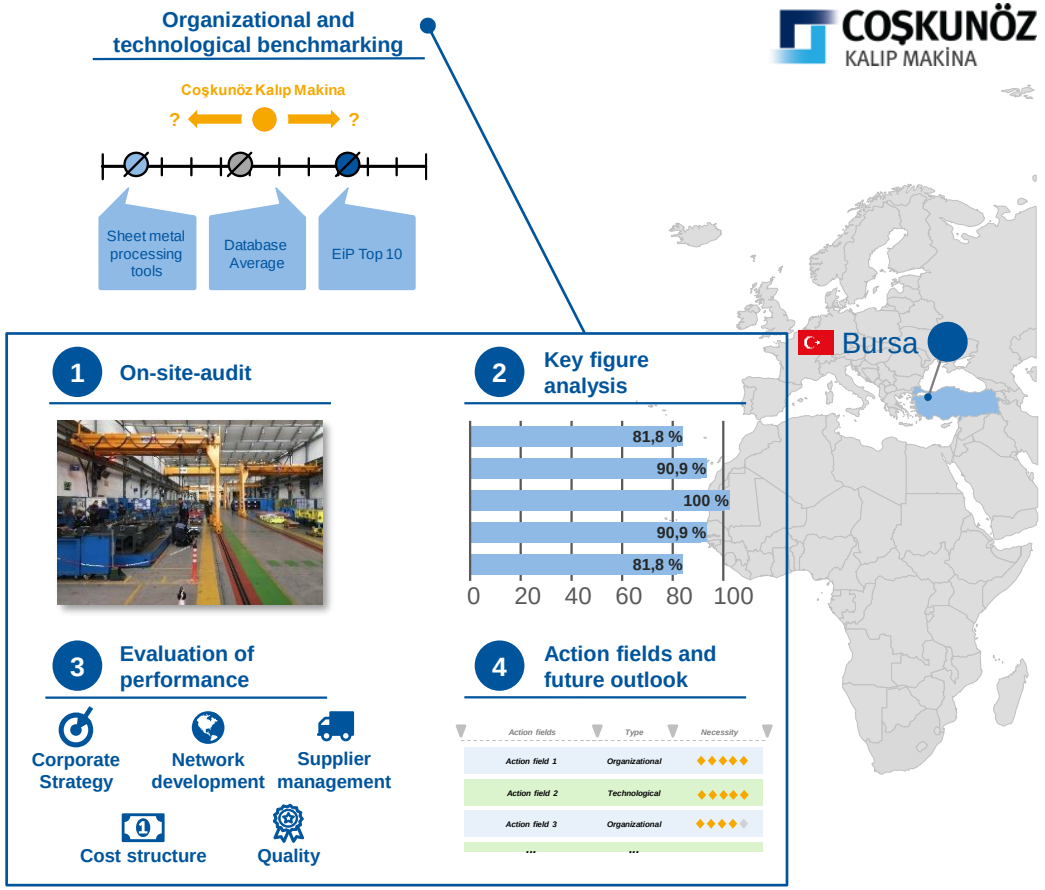
Results

- ► **Evaluation of the performance of mould making in China**
- ► **Identification of potential suitable suppliers and future partner tool shops**

Execution of organizational and technological benchmarking of the tool shop of Coşkunöz

Approach

- Comparison of performance of Coşkunöz Kalıp Makina with the ten best toolmaking companies of the "Excellence of Production" competition, an individual comparison group with the same focus on sheet metal processing tools and the general industry average
- Assessment of the Bursa site in Turkey of Coşkunöz through an on-site-audit
- Analysis of relevant key figures to evaluate the performance in organizational and technological areas of the internal tool shop
- Detailed description and prioritization of action fields for the optimization of the overall performance for the manufacturing of sheet metal processing tools



Results

- ► **Detailed presentation and evaluation of organizational and technological performance indicators of the tool shop**
- ► **Individually derived action fields and improvement potentials for the optimization of the tool shop**

Systematic supplier identification and assessment in Europe and China for the tool supply of Diehl Metall

Approach

- Definition of the required supplier profile according to Diehl specific criteria
- Identification of 434 potential suppliers for sheet metal forming and hot forging tools
- Inquiry of specific key performance indicators for 100 companies based on a questionnaire
- Systematic evaluation of the tool shops und derivation of recommendations for Diehl Metall
- On-site auditing of potential suppliers in Europe and China
- Deduction of future steps for the development of suppliers and future partners




Results

- ► **Identification of suppliers that are immediately suitable for outsourcing projects**
- ► **Strategic and operative action fields for systematic qualification of suppliers**

Quantification of the market demand and market offer in the technological environment of Dömer GmbH & Co. KG as a basis for future investment decisions

Approach

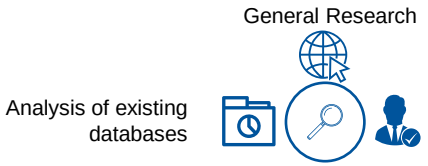
- Analysis of the relevant product range of Dömer GmbH & Co. KG as well as definition of the market-side field of view
- Development of a logic for quantifying the market demand and competitive market supply in relation to the relevant product range
- Identification of potential sales markets and customers as well as quantification of market demands for the defined product range
- Identification and analysis of competitors and quantification of available capacities in the market
- Provision of a decision support regarding the future investment requirements of Dömer GmbH & Co. KG

DÖMER STANZ-/UMFORMTECHNOLOGIE

1 Logic for quantifying demand and supply

Final product	Variant/ Module	Component	Scenario	***Market potential component xy***
Stamping companies	Segment	Thick Plate	Scenario	***Competition intensity***

2 Analysis and quantification of demand



3 Analysis and quantification of the competition

Company	*Products & Applications*	*Impressions*
Company XY	Brake systems for commercial vehicles, including patent for pad backing plates	
…	…	…

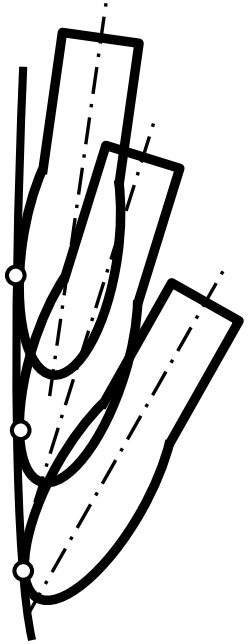
Results

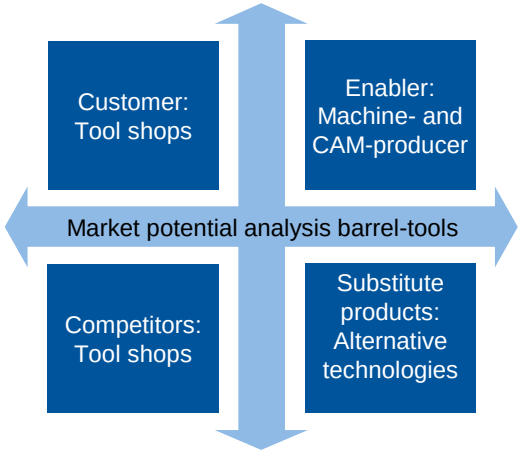
- ► **Quantitatively assessed development of relevant sales markets**
- ► **Decision support for future investment needs of Dömer GmbH & Co. KG**

Analysis of market potential for application of barrel-tools in the Tool and Die Industry

Approach

- Structuring of the analysis alongside the market forces of barrel-tools in the Tool and Die Industry
- Design and mailing of a questionnaire to tool shops for systematic identification of potentials in the sales market
- Interview of tool experts for detailing and validating the results of the analysis
- Design and mailing of a questionnaire to CAM-producers for systematic identification of potentials concerning the procurement market
- Detailed evaluation of the questionnaire results and interviews as basis for a decision concerning a market launch of barrel-tools





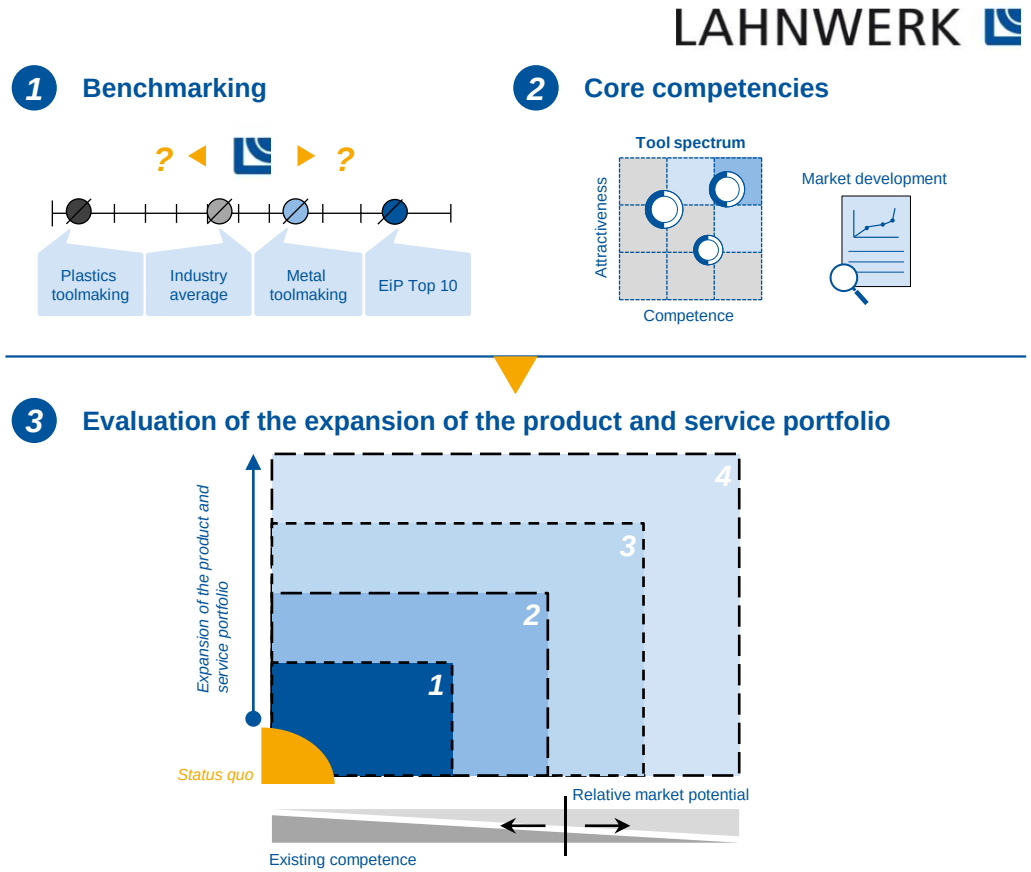
Results

- ► **Detailed overview over the market potential of barrel-tools**
- ► **Basis for decision concerning a wide market launch of barrel-tools**

Identification and evaluation of additional business areas to expand the current product and service portfolio at Lahnwerk

Approach

- Benchmarking organizational and technological key performance indicators in order to evaluate the performance of Lahnwerk's tool shop
- Analysis of the existing range of products and tools in terms of relative competence, economic attractiveness and future viability
- Identification of opportunities to expand the product and service portfolio in existing industries as well as by entering new industries
- Systematic evaluation of possibilities to expand the existing product and service portfolio based on current and future market potential as well as potential customers



Results

- ► **Analyzed performance and core competencies of the tooling shop compared to the competition**
- ► **Evaluated opportunities to expand the product and service portfolio**

Benchmarking to evaluate the performance of South African tooling industry between 2015 and 2019

Approach

- Identification of 15 representative companies in the South African tooling industry
- Preparation and dispatch of a standardized benchmarking questionnaire validated in Germany
- Conduction of on-site audits to validate organizational and technological performance based on data in the questionnaire
- Assessment of the performance of all companies and the South African tooling industry
- Assessment of the development of the South African tooling industry and individual provinces between 2015 and 2019
- Development of action fields to improve the performance of companies and industries

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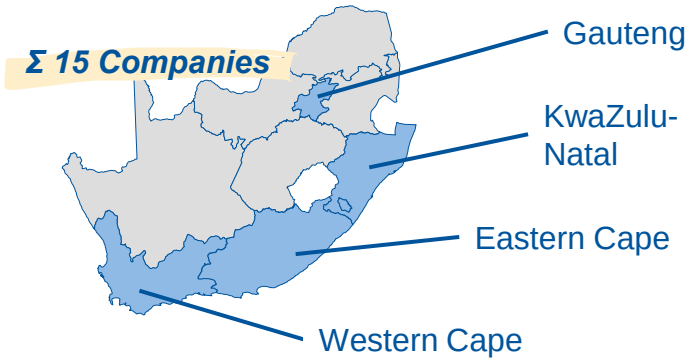
Creation of Questionnaire

Submission of Questionnaire

Conduction of on-site audits

Calculation of KPIs

Derivation of action fields



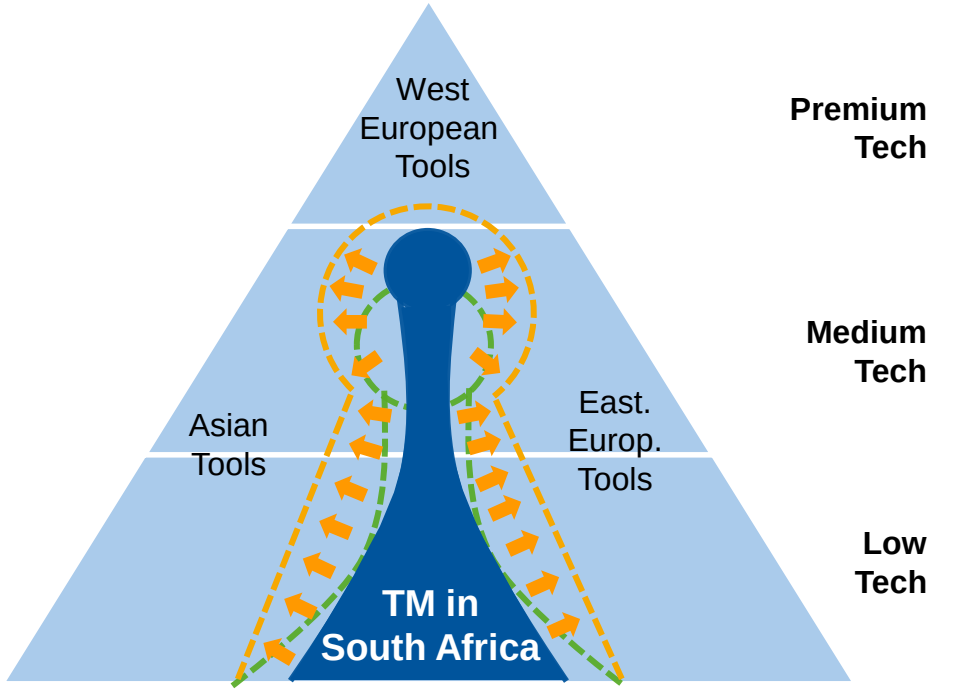
Results

- ► **Assessment of the performance of toolmaking companies in South Africa**
- ► **Development of action fields for the future orientation of the South African tooling industry**

Benchmarking of the capabilities of the South African Tooling Industry

Approach

- Identification of approx. 40 representative companies for the South African tooling industry
- Design and distribution of a standardized questionnaire validated in the German tooling industry
- On-site auditing of organizational and technological capabilities to verify data in questionnaire
- Quantitative evaluation of the capabilities of all companies and the South African industry
- Derivation of action fields for the future improvement of the capabilities of the companies



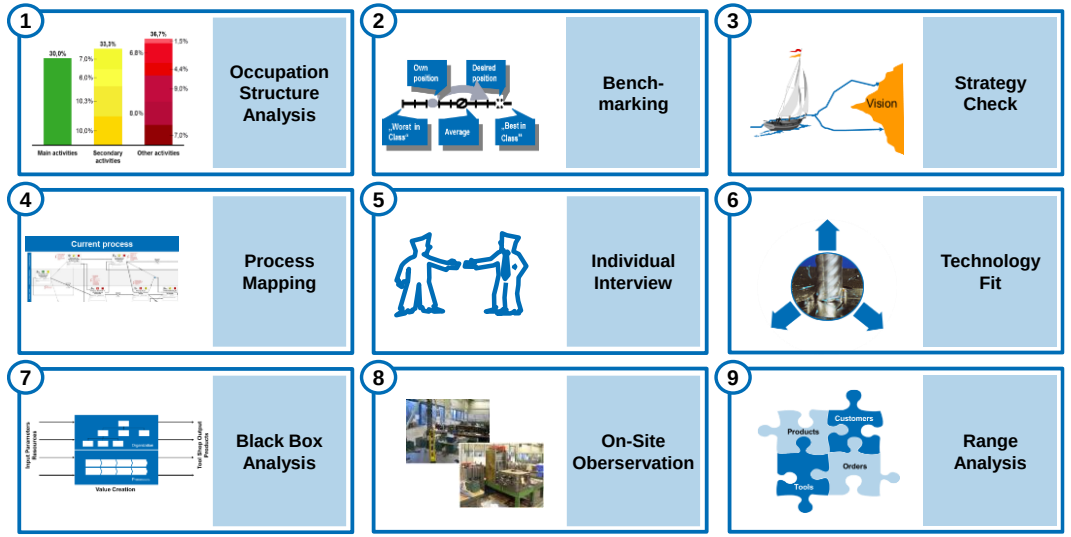
Results

- ► **Detailed quantitative evaluation of the capabilities of the South African industry**
- ► **Defined action fields for the future improvement of the capabilities of the South African industry**

Systematic support on the continuous improvement of the South African Tooling Industry

Approach

- Development of a north star as the “ideal“ South African tooling company
- Derivation of a comprehensive consulting approach for South African tooling companies
- Definition of specific analysis and improvement instruments for consulting in the South African tooling industry
- Target-orientated further education of tooling consultants of the NTIP
- Continuous collaborative consulting with the NTIP of selected South African tooling companies



Results

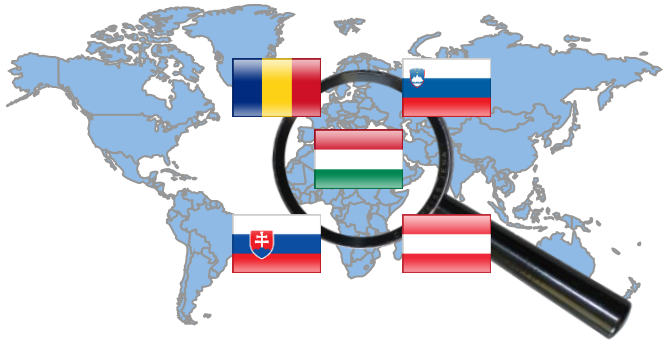
- ► **Stringent consulting concept of international best-practice standard for the South African industry**
- ► **Continuous training of tooling consultants for the South African industry**

Design of the tool supply for a new location in the value-added network of Takata

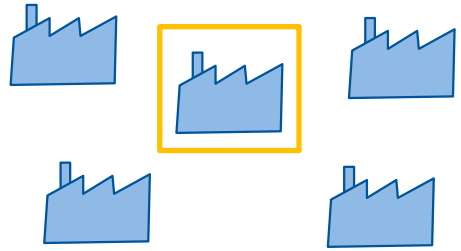
Approach

- Analysis of the series production planning and derivation of tool demands for the new location in Hungary
- Internal analysis and benchmarking of internal Takata tool shops in Germany and Romania
- Market study in Eastern Europe to identify potential suppliers for the location in Hungary
- Design of the tool supply for Hungary with an internal tool manufacturing, suppliers and internal tool shops
- Roadmap for the gradual realization of tool supply in Hungary

Internal analysis and market study



Tool supply design



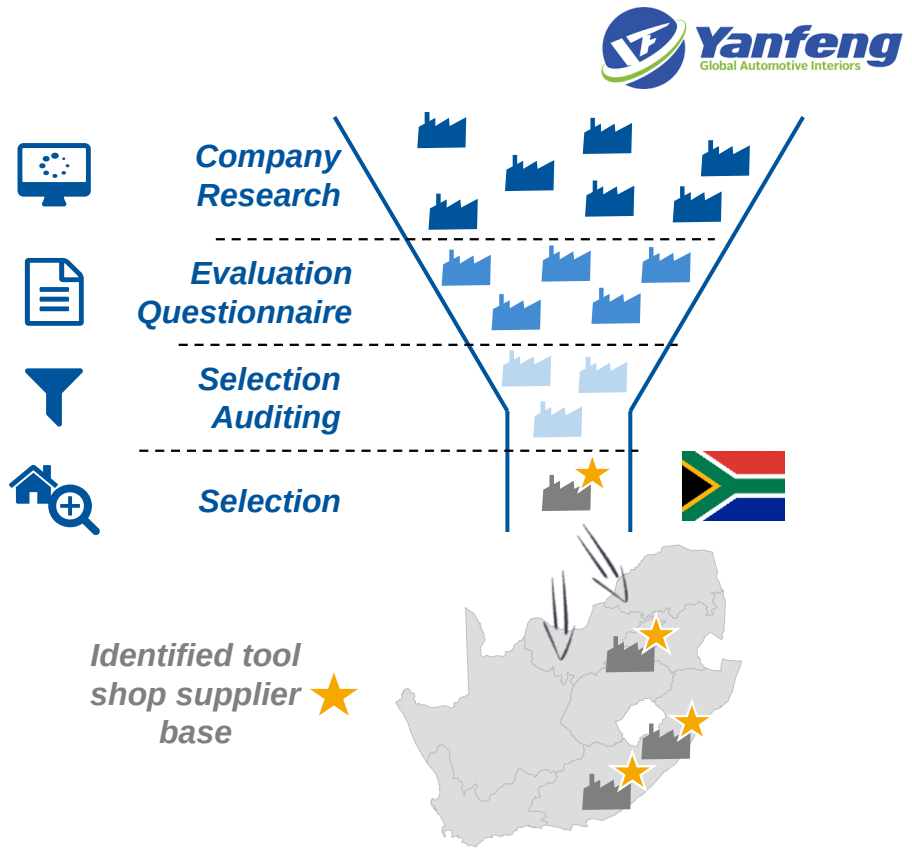
Results

- ► **Substantiated market intelligence regarding the design of tool supply for maintenance, repair and new tools**
- ► **Defined tool supply with internal tool shops, suppliers and internal networking**

Identification and selection of a tool shop supplier base for Yanfeng in South Africa

Approach

- Definition of the necessary requirements for a tool shop supplier base in South Africa
- Preparation of a comprehensive questionnaire for the qualitative and quantitative pre-evaluation of South African tool shops
- Execution of a detailed market research with subsequent establishment of contact and completion of the questionnaire to evaluate the tool shop performance
- Creation of evaluated company profiles of the tool shops for pre-selection
- Conduction of on-site auditing of identified potential tool shops in South Africa
- Final evaluation and selection of a tool shop supplier base



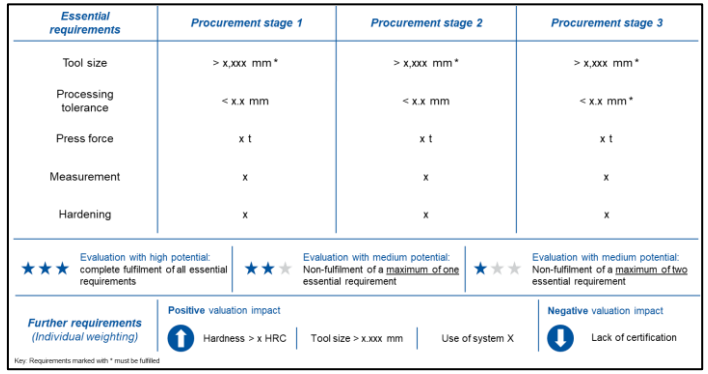
Results

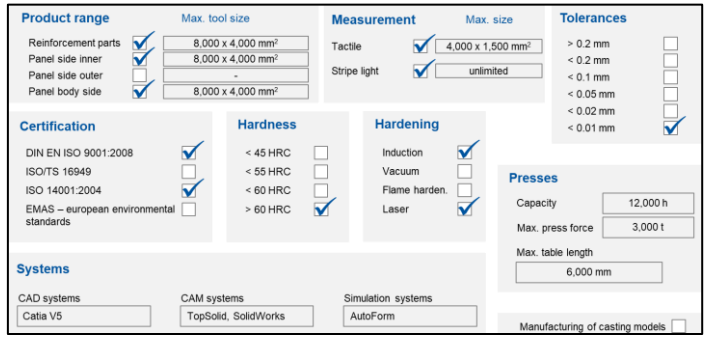
- ► **Comprehensive list of potential tool shop suppliers along with company information**
- ► **Identified and audited tool shop supplier base for Yanfeng in South Africa**

Market Intelligence – Reference: Identification of potential suppliers of sheet metal forming tools in Eastern Europe

Approach

- Definition of thyssenkrupp System Engineering's requirements on suppliers for sheet metal forming tools depending on various procurement stages
- Evaluation of the potential of tooling markets in Eastern Europe and definition of focus markets in Czech Republic, Slovenia, Slovakia, Poland, Romania and Hungary
- Execution of market studies in the focus markets to identify suitable tool shops
- Establishing contact with potential suppliers and comparison of the fulfillment of requirements with help of standardized supplier questionnaires
- Creation of supplier profiles and development of an evaluation logic for adequate potential assessment





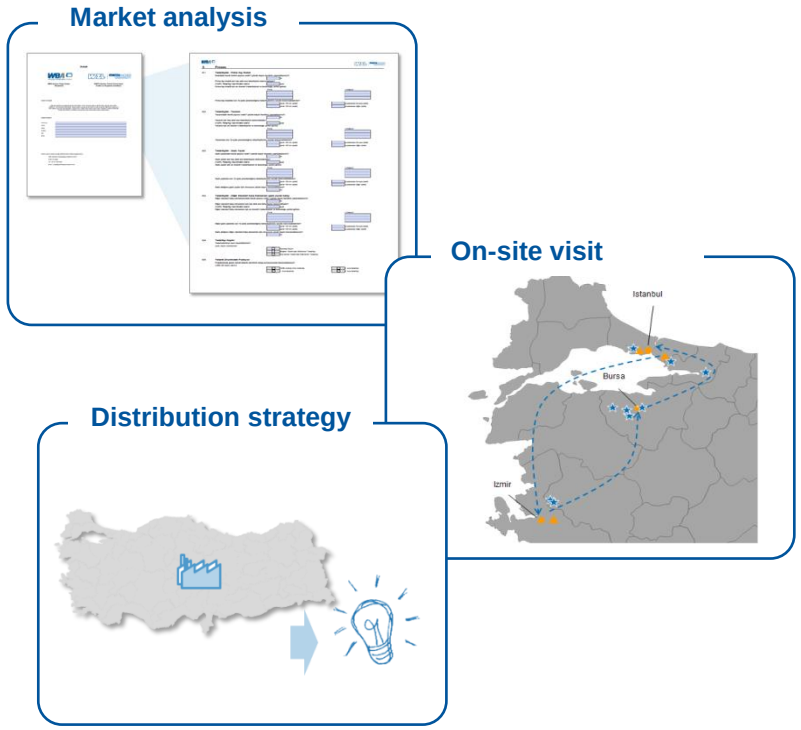
Results

- ► **Detailed profiles of 39 potential suppliers of sheet metal forming tools in Eastern Europe**
- ► **Recommendation of selected tool shops for an on-site audit**

Market study of tool shops in Turkey and development of the future distribution strategy for a manufacturer of standard mold units

Approach

- Commencement of general framework and requirements for the distribution of standard mold units in Turkey
- Identification of toolmaking companies as potential customers and as relevant competitors
- Implementation of a quantitative market and a competitive analysis by means of questionnaires in local language
- Validation of the market and the competitive analysis by means of on-site visits of toolmaking companies in Turkey
- Development of a distribution strategy including an implementation roadmap for the market in Turkey



Results

- ► **Detailed analysis of the tool shops in Turkey and their supplier structure**
- ► **Derived specific distribution potential for the company in Turkey**
- ► **Distribution strategy and und implementation roadmap for the market in Turkey**

Market study of standard parts in blow molding and metal forming tools for a supplier of standard parts

Approach

- Classification of relevant tools in regard to tool size and quality requirements and assigning offered standard parts to those classes
- Research and calculation of market volumes for each tool class in 17 countries
- Definition of standard part groups and development of a logic for a further segmentation of the market volumes for all relevant groups of standard parts
- Calculation and evaluation of market potentials for all previously defined tool classes and groups of standard parts
- Summary of the results in compact sheets for each tool class

Results

- ► **Itemized structure of standard parts and their value in the defined tool classes**
- ► **Identification of market potentials for standard parts in 17 countries as a basis for decisions for future distribution strategies**

Analysis of potential markets for tool procurement for an internal tool shop in the field of stamping and forming technology

Approach

- Development of a standardized requirement profile for future suppliers of the internal tool shop
  - Definition of a company-specific requirement profile
  - Creation of a questionnaire for the supplier evaluation

- Research, identification and evaluation of potential suppliers for the internal tool shop
  - Research of potential suppliers in Eastern Europe
  - Sending the questionnaire to the identified suppliers
  - Evaluation of suppliers and documentation of competence profiles related to countries and companies
  - Obtaining reference offers for the production of exemplary tools

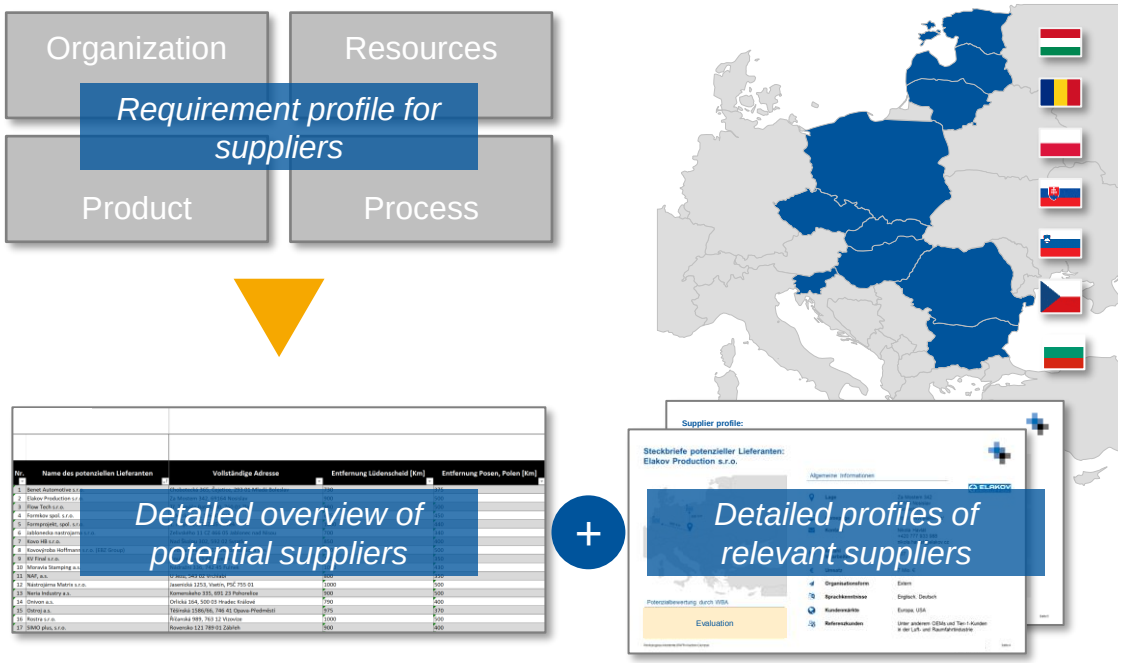
Result

► **Country overviews with identified companies and detailed profiles as well as concrete reference offers of selected potential suppliers**

Identification of potential tool suppliers in Eastern Europe for an internal tool shop in the field of stamping and forming technology

Approach

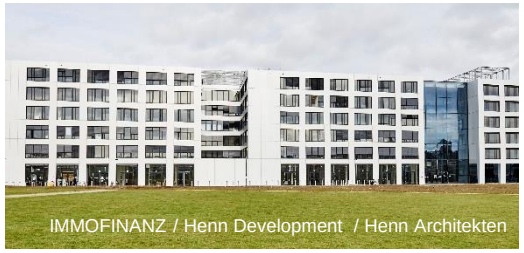
- Detection of individual requirements of the internal tool shop and development of a standardized requirement profile for potential tool suppliers for sheet metal tools in Eastern Europe
- Research of potential tool suppliers and creation of supplier profiles with relevant information on the respective tool suppliers (e.g. product focus, machinery, manufacturing tolerances etc.)
- Preliminary evaluation of potential tool suppliers based on the requirement profile and aggregation of those in an overview
- Gathering of detailed supplier profiles for relevant tool suppliers on the basis of the preliminary evaluation



Results

► **Identified potential tool suppliers from Eastern Europe as well as detailed profiles as a basis for the selection of suitable tool suppliers for the internal tool shop**

The WBA Tooling Academy
Contacts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