

# **Excellence** in Injection Molding

Success through customized solutions











# TARGUS Expertise

Effective consulting and sustainable implementation

"We develop customized solutions for and with our customers and stand for pragmatic and effective implementation."

Andreas Sans, Member of the Board TARGUS

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# Challenges and solutions for the injection molding industry

#### Identifying levers and securing implementation

Competitive advantages achieved with standardized approaches or theoretical concepts. To be successful in the long term, companies need solutions tailored to the individual case, combined with implementation capabilities.

#### Do you critically assess your competitiveness?

With demanding customers, intense competition, and difficult to control raw material costs, the plastics processing industry faces many challenges. In

addition, close contact to customers is becoming increasingly important - particularly in Eastern Europe, Asia, and America. This success factor is a major hurdle for smaller companies.

#### Are you ready for the future?

Excellence is necessary in various dimensions - at the same time, organization and individual sites are often set up very lean due to considerable cost pressure. Specialized know-how, methodological expertise, and resources for consistent work on improvements are often not available at the required extent. Therefore, selecting appropriate levers is crucial. With our injection molding screening, we focus on the right starting point by quickly working out how the ideal roadmap can be defined for your company or individual plants.

The target is maximum benefit through a customized approach. Selected modules, methods, and tools from our TARGUS Toolbox for the injection molding industry are summarized in the following.

#### Approach in the injection molding initiative

#### Typical initial situation

Mostly large customers

→ Cost pressure

Large raw material suppliers

→ Price volatility



Customer orientation

Lean organization

Grown equipment park

Productivity & Quality



Variety of

adjusting levers

available,

but little

resources for improvement

Focus on the essential setting lever

Injection Molding Screening

- → Transparency
- → Operations
- → Cost item
- → Compliance
- → Organization
- → Market view



Recommendations for action

→ Project plan





#### Maximum benefit

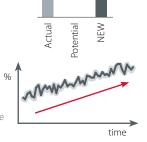
- ✓ Transparency & understanding the cost structures
  - → Energy
  - → Material
  - → Staff







- Operations
  - → Productivity → Quality
  - → Delivery performance







# **TARGUS** experience in the manufacturing industry

We help, wherever we are needed. Between 2010 and 2021, we have successfully implemented over 400 projects globally. Our industrial customers trust in the experience of our team and our successful methods.

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- → Fast-Turnaround
- → Optimization of manufacturing networks
- → Investments & Relocations
- → Organization / Administration

Over 400 projects between 2010 and 2021

- → Product portfolio analysis and optimization
- → Pricing

Logistics / SCM

Marketing & Sales

- → Organization of development
- → Product development processes
- → Agile development
- → Product cost optimization

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- → Productivity and output
- → Quality initiatives in Pharma and medical technology
- → Maintenance optimization

*52* .....

- → Strategic topics
- → Operative Due Diligence
- → Post Merger Integration

- → Material cost management direct & indirect in different industries
- → Toolmaking (medical technology industry)

→ Optimization of global supply chains

- → Plant relocations and closures
- → Rapid Delivery Performance Optimization

# Screening and recommendations for action

#### Selecting effective starting points and methods

Each plant and each manufacturing network have their own characteristics. Plant age, size, equipment, and product portfolio vary considerably within the organization.

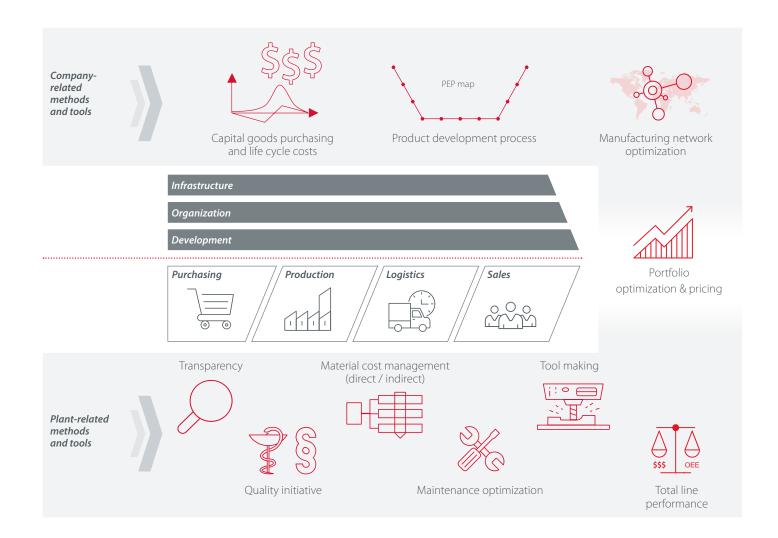
To identify the most important success factors for your company, we have developed a specific screening approach, designed to enable a thorough assessment in only two days, based on data analyses, expert interviews, and plant tours.

As a result, the client receives a roadmap to optimize a product area, a plant or an entire company. The client can independently implement the jointly developed roadmaps using the methods we propose. We often support our clients in the detailed analysis, definition of measures, and implementation of the individual building blocks.

#### **Project results**

- → Transparency on root causes and results
- → Assessment of performance with strenghts and weaknesses
- → Identification of fields of actions with highest potentials

#### Deriving the fields of action for Screening Determining the control levers **Effects** max benefit & fast implementation Clear key performance Transparency indicators Consistent data collection Data analysis → Condition of equipment park KPIs and dashboards → Condition of tools Statistical operational data analysis → Manufacturing networks Increased output Operations → Productivity Changeover time optimization → Flexibility Tool management Quality initiative → Quality **Expert interviews** Reduced costs Cost position → Staff Reduction of material consumption Target cost approach direct & indirect → Material Reduction of failure costs Energy Organization Clear structure Factory tour Organizational development → Department structure direct / indirect Project management → Overhead Product development process Increasing results Market view Distribution strategy → Margin / price quality Portfolio optimization → Portfolio Price adjustments → Customer development



# **TARGUS toolbox for the injection molding industry**

#### Use of effective strategies to optimize the value chain

After the analytical basis for improvement has been created through our Injection Molding Screening, we select the most suitable methods and tools. We have a framework and successfully implemented, high-level approaches dedicated to product development, the manufacturing network, management, process, investment costs, as well as more plant related approaches to optimize manufacturing costs along the value chain.

To ensure your project success, our consultants work together with you to develop a project approach that is individually tailored to your company's situation. Detailed planning and implementation follow-up ensure sustainability of measures.

We guarantee the success of the project by offering you to test our services for two to three weeks. During this initial phase, we will work out the main activity fields and necessary project organization to evaluate the potentials. You will also receive a cost/benefit analysis for the project and see the first specific results. Our credo: Full payment only with full satisfaction!

#### Your advantages

- → Comprehensive and proven methods
- → Experienced consultants for customized solutions
- → Project success with TARGUS guarantee

# **Optimal choice of production equipment**

#### Determining life-cycle costs as the foundation of long-term competitiveness

Most companies have a good understanding of their costs at the plant or corporate level. In detail, however, the necessary transparency to derive concrete starting points and improvement measures is often lacking. The lack of transparency affects plants and their individual components.

This is even more critical when your manufacturing equipment and processes are considered over their entire service life. Transparency is crucial for ideal investment decisions, as it determines the competitiveness of your company for many years to come. Instead, decisions are often made primarily based on purchasing prices due to a lack of information.

Life-cycle cost analysis covers all aspects

from acquisition, all operating costs, to

disposal. In combination these deter-

mine the economic efficiency. How-

Comparative values from our benchmark database show wide variations in the composition of life cycle costs even between similar companies and product groups. The detailed understanding of your life cycle costs thus serves as a

be determined.

tiveness.

ever: only with a full understanding of

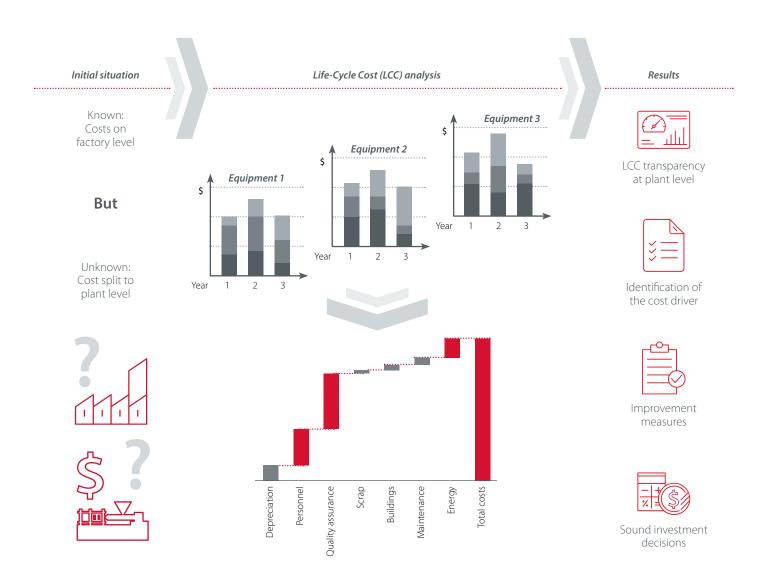
your cost drivers the ideal plant type and the best possible configuration can

starting point for the joint and fact-

based optimization of your competi-

#### **Project results**

- → Transparency over your total life cycle costs and cost drivers
- → Defined fields of action based on comparative data
- → Tangible improvement measures for maximum



# Material cost management as a results driver

#### Effective use of all optimization levers

Material costs account for a significant portion of your company's total costs. The focus for optimization is often around purchasing conditions for direct materials. However, there is often additional potential in material consumption and specification. This applies particularly to indirect materials, which are usually not processed systematically. Examples of this are lubricants or other consumables.

To realize all your potentials, we rely on the systematic identification of approaches for sustainable cost reduction by interdisciplinary teams with our tried-and-tested Material Cost Management (MCM).

Most important here is a high material cost effectiveness, which is reflected in three dimensions:

Complete coverage through consideration of your total material costs - direct and indirect ones

Deep analysis through systematic use of all levers and involvement of the demand drivers / departments (production, maintenance, quality, development, ...)

Consistent realization of savings through consequent implementation of your potentials

Since your purchasing department is no longer working alone on optimizing the cost structure, new perspectives are opened up and ideas are generated. In addition to high potentials, you also achieve improved cooperation between the various departments.

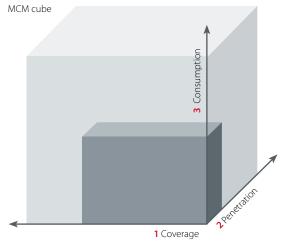
#### **Project results**

- → Understanding of all optimization levers also in the internal processes
- → Improved cost work between your departments
- → Significant reduction of costs in all non-personnel cost areas

#### Use of all levers and cost types

### → Rejects → Sprue Material composition Direct → Percentage of recycled material Cost of materials → Bundlina → Alternative suppliers Cost of materials Energy and operating materials → Facility management → Machine specification → Tool specification Indirect (esp. number of cavities) Cost of materials → Change of supplier → Bill of quantities

#### Increase in material cost effectiveness in all dimensions



**Reduction of material costs** 

# **Optimization of tool costs**

#### Use of the right tools for minimum manufacturing costs

High-quality and cost-effective tools are an important competition factor. Accordingly, often many of the usual optimization possibilities have already been exhausted. That is why a systematic test logic based on your future manufacturing costs and requirements is particularly important.

Three key questions occur:

**Risk:** Do you need one or more tools?

**Layout:** Which material and which number of cavities are ideal for your purpose?

**Design:** How can we optimize your material consumption and productivity?

The time until the start of production is usually short. This limits your scope for optimizing tool costs. To decouple them from the time factor, early and order-independent development of a

cost-effective portfolio of tool suppliers is recommended. In addition to the direct tool costs, efforts for your project management and qualification must also be evaluated.

The tool market is undergoing a major change. Particularly suppliers from Asia and Mexico offer potential for cost reduction. The associated expenses and risks are to be evaluated in a procurement strategy specific to your company. Based on these findings, we will work with you to systematically identify levers for your future negotiations and product cost optimization with the defined suitable suppliers.

#### **Project results**

- → Evaluation logic for your tool design based on Optimal manufacturing costs
- → Systematic pre-selection and allocation of your tools to cost / benefit optimized toolmakers
- → Planning for the tooling with alternative suppliers developed and implementation started

#### Relocation of tool suppliers from the United States to Mexico or Asia



# **Optimization of the manufacturing networks**

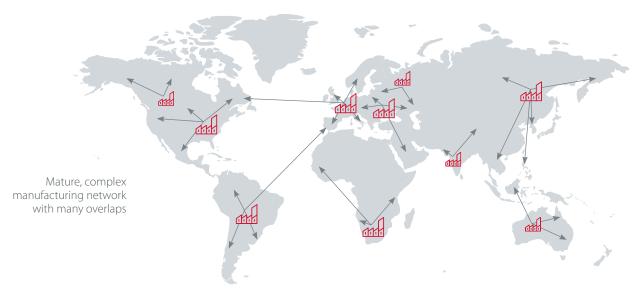
#### Systematic assessment and improvement

Does your organization consist of several smaller locations? Since markets and supply chains are constantly changing, your site network should be regularly assessed and adapted. In addition to manufacturing and transport costs, supply reliability, technologies, and competencies of your sites need to be considered for the ideal setup of the production network. The resulting interdependencies create a high complexity that must be understood and mastered.

With our proven approach we support the path from the initial analysis, relocation, and ongoing series production at the new location. It includes all aspects from the formulation of goals to the evaluation of various scenarios to decision-making and implementation. We establish consistent routines to facilitate coordination betweeen all core players and that the entire manamagent team supports the decisions You act on the basis of a coordinated decision that serves as a solid foundation for the subsequent implementa-

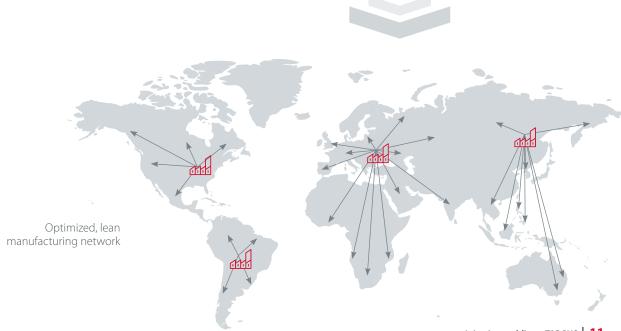
#### **Project results**

- → Fact-based assessment of your manufacturing network
- → Target-oriented decision template as the basis for your optimization
- → Detailed implementation concept including inventories, equipment, tools, and personnel



#### Optimization of the manufacturing network (incl. in-/outsourcing)

- → Evaluation of the existing network and suitable scenarios
  - → Implementation planning



#### **Total Line Performance**

#### Systematic improvement of manufacturing costs

Our holistic Total Line Performance (TLP) approach ensures that your equipment manufacturing costs are systematically improved. It extends the Overall

Equipment Effectiveness (OEE) approach, which focuses on productivity increase, by additionally considering cost potentials. This allows determination of the economically ideal operating point of your equipment.

First, we check the basics for optimization, in particular availability and quality of necessary data. Based on this, we define the procedures appropriate to uncover existing potentials in your company and enable improvements. This includes the systematic identification of reasons for productivity losses as well as the development, evaluation, prioritization, and implementation of measures to improve total line performance.

In the last step we document all process changes to implement them permanently in the company. This creates sustainable added value.

#### **Project results**

- → Transparency about productivity and cost drivers
- → Specific measures and rules for operating the production sites
- → Measurable improvements in variable manufacturing costs

#### Classic OEE approach

# S\$ \$ But \$/piece ?

#### Typical results of the Total Line Performance (TLP) approach

# Full transparency

#### Measures & rules

# Manufacturing cost effects



- → Technical line power "Hard stop"
- → Systematic analysis of losses
- → Shift staffing & degree of automation
- → Financial evaluation of the measures
- → Development of measures & planning
- → Clear rules & action instructions
- → Fast implementation
- → Increase productivity
- Reduction in personnel costs
- → Reduction in manufacturing

# **Maintenance Optimization**

#### Utilizing maintenance as a lever

Maintenance costs can vary considerably between different companies and locations. The individual locations are not always large enough to provide the necessary resources in-house. However, to ensure effective and cost-optimized results, proven, and tested approaches can be applied.

**Effort:** Systematic approaches for recording, categorization and analysis of your losses are applied for a thorough understanding and elimination of error sources.

Costs: Your maintenance costs will be consistently recorded and optimized. The ratio of plant performance and maintenance expenses is optimized (incl. input and output from suppliers and spare part costs).

With our proven Maintenance Scan, we analyze your cost development and your working methods to evaluate your plant or organization and and to jointly develop concrete measures for improvement.

#### Initial situation





- → No systematic performance tracking
- → High costs for repair and maintenance



#### Performance improvement

- → Codification & analytics of shutdowns / measures
- → Idea collection & measure definition
- → Concepts, e.g. forward-looking maintenance planning





#### Results

- → Systematics for improvement of maintenance
- → Higher availability & output
- → Lower maintenance costs



#### \_\_\_

**Project results** 

maintenance work

→ Evaluation of effectiveness and efficiency

→ Specific measures for further development of your

→ Transparency about your plant availability and need for action

# **Holistic quality initiative**

#### Improving quality and reducing quality costs

Quality costs are a major cost driver most likely also in your production. In addition to the costs for rejects, sprues, and complaints, they also include costs for inspections, documentation, and waiting times.

In the plastics processing industry, there are also product quality driving factors that need to be considered. Examples are changing material qualities due to purchased granulates, frequent color changes or the increasing use of recyclates. In addition, climatic conditions, e.g. due to weather changes at one location and due to the different climate zones in globally operating companies with several locations, often have difficult-to-control effects on stable product quality.

With this variety of inputs and effects, many companies lack the necessary transparency regarding the true level and causes of quality costs. Depending on industry and product, they can sum to up to 30 % of your manufacturing costs.

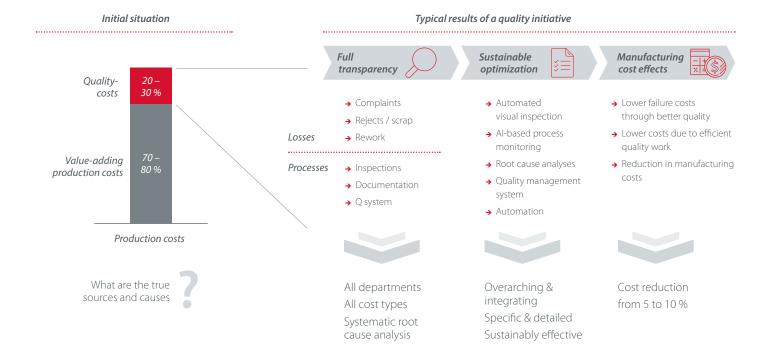
Quality management should be proactively designed as a core operational process. Our experience shows that, in addition to a good technical process management, the handling of releases is a key driver for improvement. The right choice of batch sizes, documentation, and release processes leads to an improvement in compliance while simultaneously reducing costs.

Optimizing costs for deviations (rework, rejects, complaints) is usually a question of neatly defined and expediently implemented processes in the interaction of the departments.

Together, we create the necessary transparency for the overall quality costs and coordinate the necessary changes in the work processes to sustainably improve the quality for your company and thereby reduce costs in the long term.

#### **Project results**

- → Full transparency on quality costs per department, cost type and root cause
- → Cross-departmental roadmap for optimization of costs and quality



# Phase model for product development

#### Improving development speed and schedule adherence

Whether it is your own product or contract manufacturing, time-to-market is becoming increasingly important. To protect your competitiveness, it is important to master shorter development times with high reliability. In addition to product development itself, this also applies to tool design, tool making, as well as process validation.

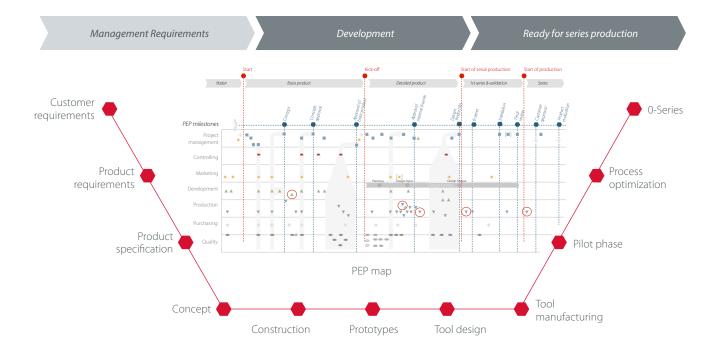
With our product development process, we create clear responsibilities and interfaces in these interlinked processes. Dependencies become visible and binding coordination between departments lays the foundation for reducing effort and duration. We also identify your potential risk areas to allow addressing them with dedicated countermeasures.

In combination with quality gates points in the development process with certain quality criteria need to be met and agile working methods, there is a reliable foundation for improved development times and a timely completion within budget.

#### **Project results**

- → Reduction of your development times by 10 40 %.
- → Transparent project status and high adherence to schedules
- → Basis for learning effects and further improvements

Finally, we use appropriate control variables, progress tracking and routines to ensure that you recognize deviations at an early stage and take appropriate countermeasures.



# **Portfolio Optimization**

#### Transparent margins at product level and earnings optimization

Companies usually react by maximizing their equipment and tool utilization to increasing competitiveness and price pressure. Customer-specific mixed calculations are the result, which are usually sensible at the respective reporting date. Over time, however, changes occur in the product mix, customers, and manufacturing costs, which means that your overall situation changes - also regarding the machinery.

Many companies have increasing numbers of products with lower production volumes and margins. This is often made more difficult by simplifications made in the calculation and determination of manufacturing costs. Hence, the actual profitability of individual products is further distorted, resulting in intransparent margins.

With a Portfolio Optimization, you can address this problem and create the basis for targeted measures to increase margins.

We will pursue the following starting points together:

**Transparency:** Simplifications errors in determining your cost of goods sold are revealed and your true margins are determined. Additional costs and complexity drivers are also considered.

Evaluation: If necessary, a strategic classification of your products and customers is carried out to also take these into account in your measures.

Sustainability: To avoid future mistakes, we customize your estimating process.

Measures: Together we create a target picture for your portfolio (products, prices, assets) and the necessary mea-

As a result, you receive a roadmap with defined implementation steps that ensure the achievement of your target profitability.

#### **Project results**

- → Transparency of your true margins at product level
- → Tangible suggestions for your target portfolio and a machinery coordinated with it
- → Roadmap for implementation and optimization





#### Our employees:

- → More than 60 consultants with technical expertise (> 90 % engineers and scientists)
- → On average more than 10 years of project experience
- → Long-standing line manager with leadership experience
- → Creative thinkers with extensive consulting experience

#### Our consulting teams:

→ Individual composition depending on the project

#### Our focus:

- → Organization and business processes
- → Research and development
- → Purchasing and supply chain
- → Production, maintenance and logistics
- → Distribution and pricing
- → Strategy

#### **Our locations:**

- → Ratingen near Düsseldorf, Germany
- → Chicago, USA

#### Our locations of operation:

- → Wherever you need us
- → 100 % on site also the partners

# **About us**

#### Our commitment to your success

With smart methods and implementation strength to rapid results and sustainable change.

#### What makes us different?

2. Implementation 1. Business capability performance

40 participants incl. the best known consulting firms (among others McK, BCG, Bain)

WGMB study "Hidden Champions of the consulting market 2022/23". (Performance for implementation ist the most significant factor for the decision.)



# Fast results and sustainable change

#### Our value proposition

#### The right project preparation

... is part of our success. During a pre-project with TARGUS, you can familiarize yourself with us and our methods. We use the results we have achieved with you for a customized project proposal based on your specific needs. With this approach our consultants require a very short orientation phase for your company.

#### **Toolbox**

You benefit from the innovative concepts developed by our consultants, which constantly expand and improve our TARGUS Toolbox. Through our unique combination of methods that have been successfully tested many times, we also create synergies for your company and achieve additional

#### **TARGUS** tailormade

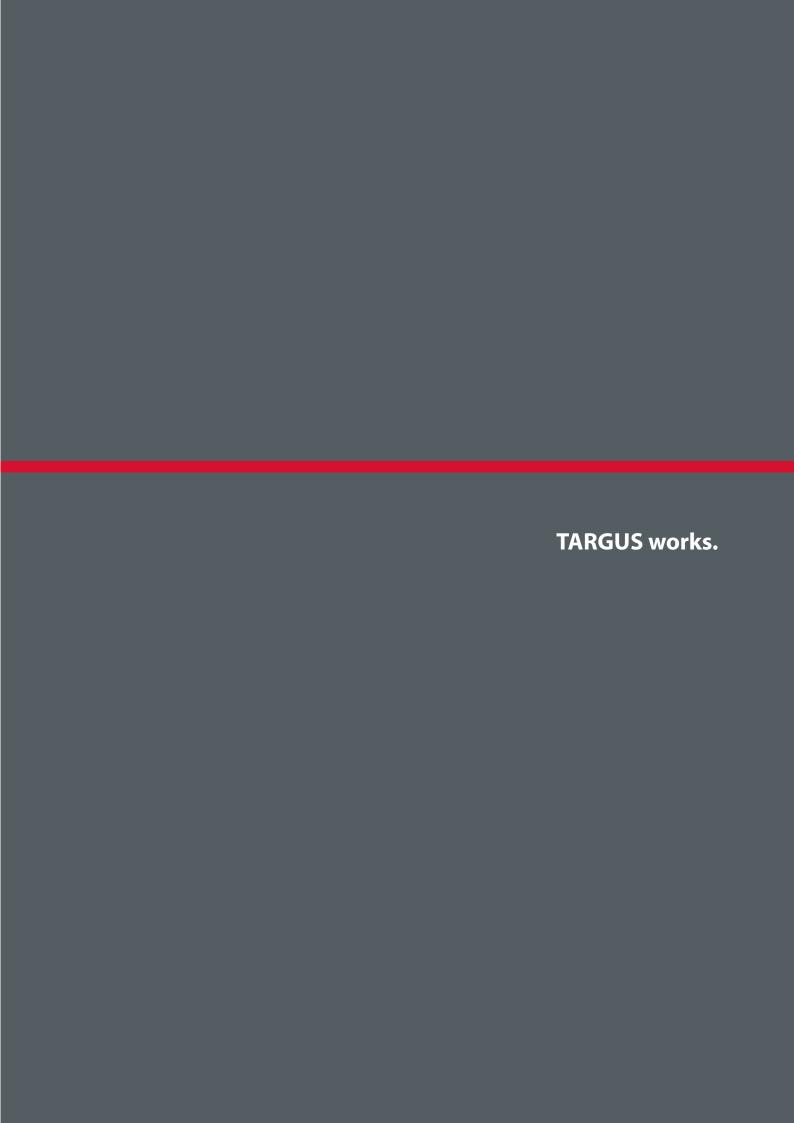
The methods of our TARGUS Toolbox are based on proven approaches that we continuously refine and complement with our know-how. We use these concepts to tailor your project to the needs of your organization.

#### Speed

We work in mixed and interdisciplinary teams of experienced managers and consultants and your employees. With this bundled competence we quickly achieve tangible results.

#### Sustainability

The joint development of solutions through intensive cooperation and partnership with your employees leads to a stabilization of changes and thus to sustainable anchoring.





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