Integrated Consulting Group

Your Partner in Change.

Process optimization

using Six Sigma

Offer from ICG Slovakia

OUR STORY: THE "SIX SIGMA METHODOLOGY"

PROCESS OPTIMIZATION USING LEAN SIX SIGMA METHODOLOGY

If you have a complex process problem with quality and defects that you need to solve using the DMAIC (Six Sigma) methodology or you need a completely new process designed quickly and expertly (Design For Six Sigma) our Master Black Belts can deliver a tailored project. We recommend this especially if you do not have internal resources in your company or the problem is very urgent and you need to find a solution quickly based on data and analysis.

The second typical situation is that internal Green Belts and Black Belts do not have the needed time resources or need to find "certainty" in the Six Sigma methodology and improve.

In projects, we try to work either as a leader, where we take over the whole project in the role of project manager and improve the process together with the team. The other option is that the project has an internal Green Belt / Black Belt and we provide ICG with maximum support in delivering through coaching. We always try to focus on:

- Understanding and quantifying the process problem
- Finding and validating root causes
- Data collection and support with statistical/graphical analysis of the process
- Setting the implementation plan for the following period
- Setting the correct DMAIC / KAIZEN or Design (DOE) access
- Help with communication and finding energy

"The customer returned the faulty components to us and we have to find the cause in a short time"

"The scrap rate in the process increased by 30%"

"Our trained Green Belts need guidance along the way on their projects"

"We have trained Green Belts, but we need help in the form of Coaching"

Situations we deal with

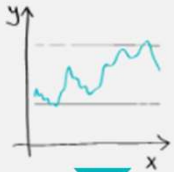
THE GOALS WE WILL ACHIEVE TOGETHER

In each project, we will select the key objectives that we will guarantee for you at the time of assignment. Typical objectives from similar projects are listed below.

Main objectives and benefits

Reduce process time and process costs from defects

Improving capability – process quality (6 sigma)



We analyse everything by data and not by impressions

Increased quality of process outputs - customer satisfaction

EXAMPLES OF BENEFITS FROM SIMILAR PROJECTS

To give you an idea of the specific objectives and their fulfilment, we attach examples of real results achieved with a short description.

35%

Increase in daily productivity of processed contracts per person from 34 to 47 contracts

Impacts:
Reduction in contract backlogs that caused late responses to customers. Impact on NPS and overall acceptance of bids. Impact on revenue of CZK 4.4 million.

Where:
Backoffice Telecommunication companies

53

Ideas were generated and 27 changes implemented within 8 weeks in the Business Sales and Care department

Impacts:
During the transformation of sales channels, workshops were conducted to improve customer access, planning, work organisation and to promote collaboration between teams. Collaboratively generated ideas were better received and implemented

Where:
Business Sales

25%

Productivity growth thanks to electronic invoicing

Impacts:
The technical change was well thought out, but the people in the accounting department did not accept it. There was considerable resistance to the new SW. Through the Change Management workshop, people understood the solution, defined a plan to help, and resistance with use (technical) was removed.

Where:
Billing team of a large company

60%

Reduction of process time in the accounting and administrative process

Impacts:
Through joint workshops with accounting staff, we analysed the existing process and identified the biggest sources of inefficiencies**.** We defined the requirements for the new process and facilitated an internal team discussion to design the new process. Just one month after the change was implemented, the process was reduced by 60% of the original duration.

Where:
Administration in a manufacturing company

EXAMPLES OF BENEFITS FROM SIMILAR PROJECTS

To give you an idea of the specific objectives and their fulfilment, we attach examples of real results achieved with a short description.

2 weeks

We are setting up a planned experiment to find the right combination of factors affecting the scrap rate of the line cleaning process

Impacts:
Reduction of damaged parts in the degreasing process by 75% thanks to DOE (planned experiment). Cost impact of 2.7 million CZK/year.

Where: Electronic component manufacturing company

21%

Multiple paint defects have been removed.

Impacts:
Finding the root causes of poor quality (cracks and inconsistent coating) helped to redesign the transport process in the paint shop, resulting in a 21% reduction in the cost of poor quality (COPQ) (950,000 CZK/year)

Where: Household and business supplies manufacturing company

41%

Increasing the throughput of an automotive component supplier's production line

Impacts:
Too high error rate (scrap, rework) caused the need for 100% internal control and many more costs for repair or additional material. By finding the root causes using the DMAIC methodology, the required throughput increased by 41% after implementation

Where: Manufacturing - Automotive

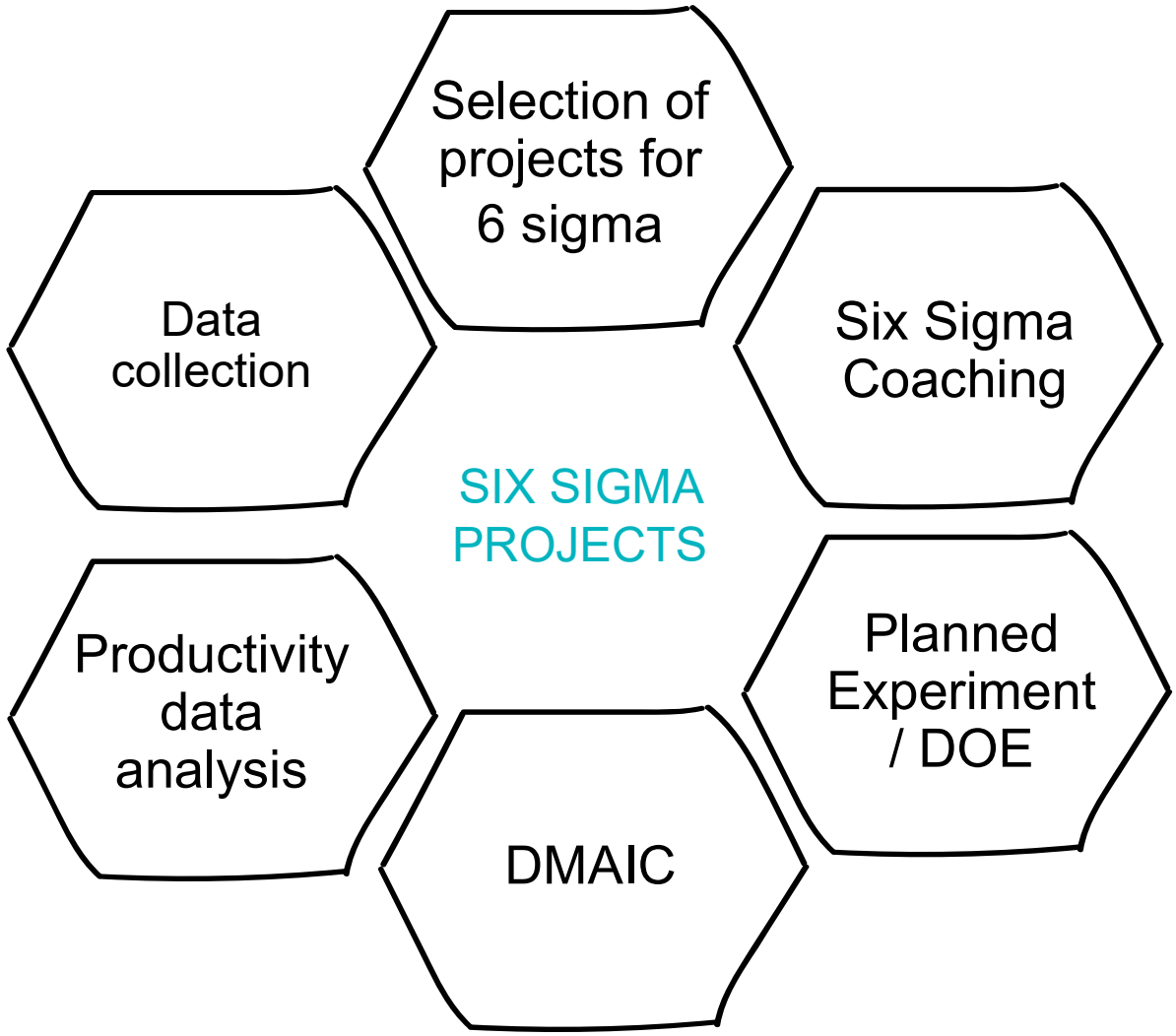
83%

There was mediocre pallet capacity utilisation in internal logistics, causing excessive consumption and the need to use more space for intermediate storage.

Impacts:
Using data to visualize the variability in pallet capacity utilization and find the root causes causing this high variability (37%-97%). After corrective action analysis, the process was stable with an average pallet utilization of 93%

Where: Internal logistics

MODULES AND TOOLS WE USE IN THE IMPLEMENTATION OF THE PROCESS AUDIT PROJECT



DMAIC
A complete methodology to systematically improve the process and eliminate defects in 5 steps.

Selection of projects
Techniques where we validate whether a project is suitable for the DMAIC methodology or for Kaizen or a completely new Design.

Data collection
We are compiling operational definition and procedures for all relevant data to help validate impacts on output metrics.

Six Sigma Coaching
Coaching with the project leader (GB or BB) to validate past work and develop a new action plan.

Productivity data analysis
Based on the collected data, we analyze the relationships between the selected root causes (X) and their effect on CTQ.

Planned Experiment / DOE
A special technique for situations where it is not appropriate to use DMAIC, but rather to simulate the Improve phase.

WHAT METHODS DO WE USE TO IMPROVE PROCESSES?

- In process improvement projects we use the Lean Six Sigma methodology or techniques and tools derived from this method.
- All of our process consultants are certified at the 3rd (highest) level of qualification - Lean Six Sigma Black Belt.
- The Lean Six Sigma methodology uses a 5-phase "DMAIC" cycle for business process improvement (Define, Measure, Analyze, Improve, Control).
- In our projects, we improve processes based on findings from process data. We use data as evidence to uncover process flaws - so we make decisions based on facts, not assumptions.
- We always improve processes in the solution team (co-creation principle). This team is made up of process implementers and is led by our consultant who is responsible for the accuracy and success of the entire project.
- In our projects, we emphasize not only the technical (hard) side of the project, but also the human (soft) side, which is crucial for the successful adoption of process changes.

INDIVIDUAL PHASES OF THE PROJECT - ROADMAP

1. UNDERSTANDING THE NEEDS AND THE PROBLEM

Team formation and scoping

Analysis of customer needs

We will assemble a research team and clarify all the details of the assignment. We will draw up a detailed plan.

We define the needs of process customers and determine measurable goals for an effective process.

We quantify the opportunity, We map hi-level processes.

1 - 3 weeks

2. PROCESS MAPPING AND IDENTIFICATION OF OPPORTUNITIES

Understanding the current process

Identification of possible causes of process inefficiency

We will understand the current process and record its progress. We discuss all the causes of process inefficiencies.

Prepare a detailed process analysis plan and establish a data collection plan (operational definitions).

2 - 3 weeks

Approval Steering Committee / Sponsor

3. DETAILED PROCESS ANALYSIS

Process analysis (data, time, value)

Statistical and graphical analysis

We perform a detailed process analysis, measure process times, and identify process bottlenecks.

Based on data collection, we perform statistical and graphical analysis to confirm root causes.

2 - 3 weeks

Approval Steering Committee / Sponsor

4. DESIGN OF PROCESS CHANGES AND IMPLEMENTATION

Solution implementation

Risk and limitation analysis

We will propose solutions to eliminate the causes of process inefficiency.

We will prepare an implementation plan and implement all changes.

We will prepare a risk analysis and identify mitigation measures.

3 - 5 weeks

Approval Steering Committee / Sponsor

5. VERIFICATION OF PROCESS IMPROVEMENTS

Confirmation of improvement

Setting process KPIs

We will confirm the benefits of the changes implemented.

We set process KPIs and rules for their evaluation.

We will summarize the progress and results of the project - Lessons learned.

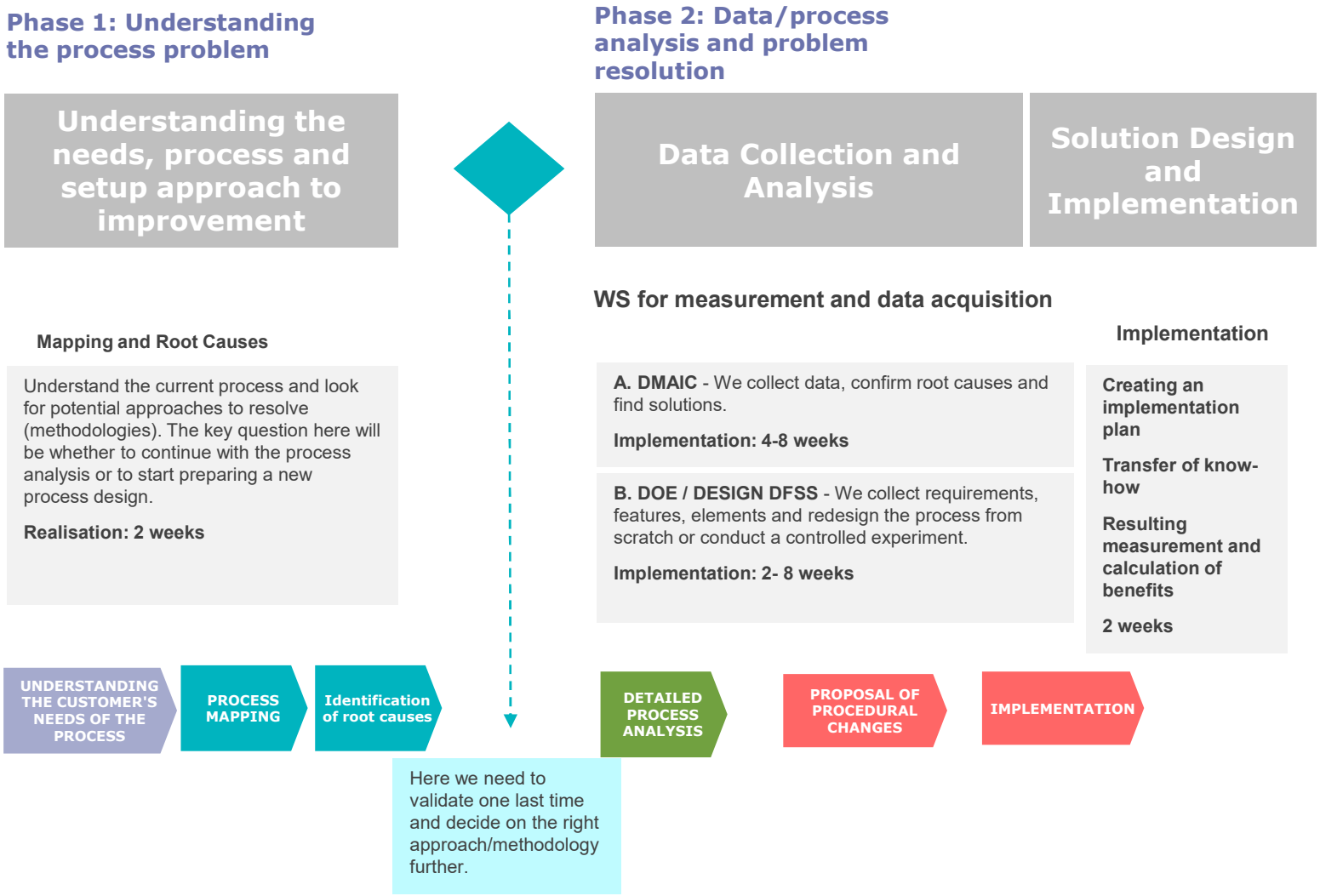
2 - 3 weeks

Approval Steering Committee / Sponsor

The typical length of a process improvement project is 12 to 15 weeks. The overall length of the project is influenced by the availability of resources and specific findings during the project. The two processes can be implemented in parallel.

RECOMMENDED TIME APPROACH FOR THE CLIENT

Here is a suggested approach that we will modify together according to your specific requirements



1. UNDERSTANDING THE CUSTOMER'S NEEDS

COLLECTIONG THE VOICE OF THE CUSTOMER AND DEFINING THE OPTIMAL PROCESS OUTPUT

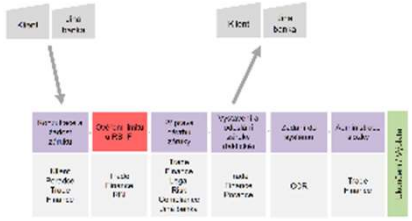
- We will assemble an executive project team consisting of RB staff who execute the process and ICG consultants. Confirm the project sponsor.
- Together as a team, we determine the scope of the process optimization - which areas we can intervene in and which we can't and create a plan.
- We define who is a "process customer", i.e. who uses the outputs of the process. Prepare to collect the requirements of the process customer.
- We will conduct a series of interviews , process observation (GEMBA) with the process customer and ask for feedback on the current u process. We will collect the voice of the customer.
- Together as a team, we analyse the customer's requirements and define the exact needs - i.e. what the ideal output of the process should look like from the customer's perspective - ideally using measurable parameters (time, effort, quality).
- We will agree everything with the project sponsor.

Outputs from this phase:

- Assembled project team
- Basic (hi level) process mapping
- Agreed project scope
- Project plan
- Inefficiency Quantification (COPQ) - what is the opportunity
- Defined customer process needs, areas to focus on

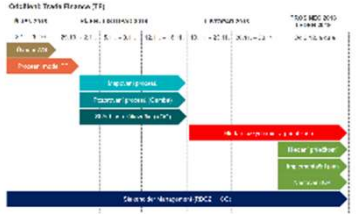
Examples of outputs:

Determining the scope of the project



Basic understanding of the process

Voice of the customer collection



Project plan

2. PROCESS MAPPING AND IDENTIFICATION OF OPPORTUNITIES

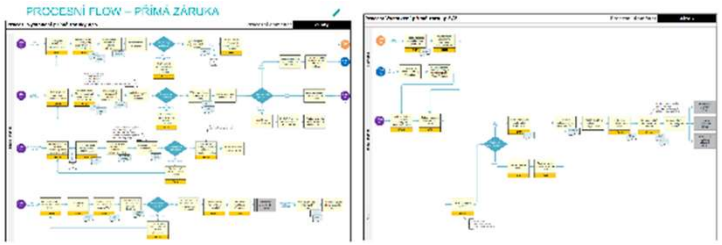
UNDERSTAND THE CURRENT STATE OF PROCESSES AND IDENTIFY OPPORTUNITIES FOR IMPROVEMENT

- We create detailed process maps for selected processes, together with the executors of the processes. The process map takes into account who performs the activity, what system is used and what are the possible connections to other processes or systems.
- We create a process card containing information about the process in areas such as processing frequency, number of units for a given time period, resource capacity requirements.
- Taking into account the requirements of the process customer (see phase 1), the team together defines the possible causes of the current process inefficiency ("root cause analysis").
- We will prepare a detailed plan, collect data for process analysis aimed at confirming (not confirming) the identified causes.

Outputs from this phase:

- Detailed process maps
- Structured process cards
- List of possible causes of process inefficiency
- Plan for process analysis (data collection and evaluation strategy)

Examples of outputs:



Process maps

S	I	P	O	C
Dodavatelé	Vstupy	Proces	Výstupy	Zákazníci
HR	katalog školení	Vyhledání aktuálních školení	objednávka	Dodavatel školení
Finance	Přístup do aplikací	Zadat do aplikace "školení"	Evidence o školení	HR
		Schválení školení	Info na zaměstnance	Zaměstnanec
		Vystavení objednávky		
		Informování účastníka		

SIPOC Process Card

Identification of causes of inefficiency

3. DETAILED PROCESS ANALYSIS

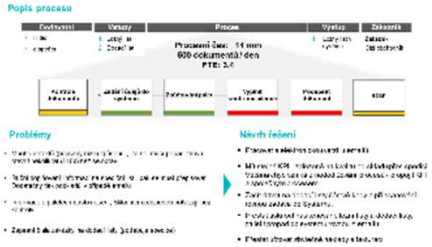
WE WILL PERFORM A DETAILED ANALYSIS OF THE CAUSES OF THE PROBLEM AND CONFIRM THEM

- Based on the prepared plan, we will perform an in-depth analysis of the process. We collect detailed process data, measure process times, analyze the "added value" of the process from the perspective of the process customer.
- Together as a team, we are looking for evidence to help us confirm the identified causes of process inefficiency - we want to know the facts that will help us decide on new process measures.
- We perform a detailed Graphical analysis and then proceed with statistical analysis (Regression, Hypothesis testing). This is only if it is a classical DMAIC project and this analysis is necessary for the process.
- Alternatively, we perform value and flow analyses. For complex projects we can offer the client an analysis using a Design of Experiment (DOE).

Outputs from this phase:

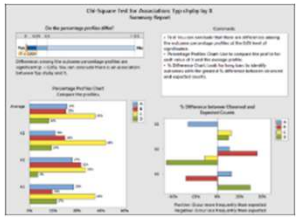
- List of findings from the process analysis - facts confirming the causes of process inefficiency
- Categorization of the causes of the problem and first suggestions for a possible solution

Examples of outputs:

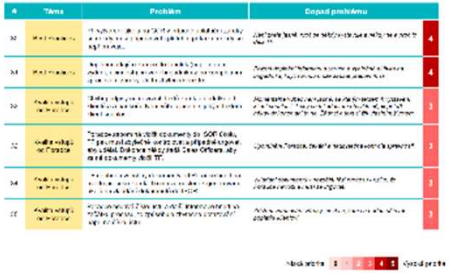


Time analysis of the process

MSA



Hypothesis test



Confirmed causes of process inefficiency

4. DESIGN OF PROCESS CHANGES AND THEIR IMPLEMENTATION

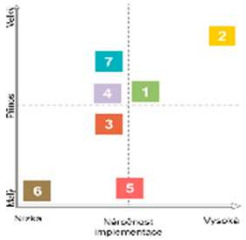
PROPOSE PROCESS IMPROVEMENTS AND ENSURE THEIR ADOPTION IN THE ORGANIZATION

- For each confirmed cause of process inefficiency, we define a set of solutions and process changes. We prioritize and validate the solutions with the project sponsor.
- We will prepare an implementation plan to implement the selected solutions including a communication plan to all stakeholders.
- We implement changes and communicate as planned. We hand over responsibility to the team - our role can be project coordinating or just consultative in the form of mentoring.
- The implementation of the solution includes a detailed risk analysis (FMEA) and definition of measures to minimize risks in the new process.

Outputs from this phase:

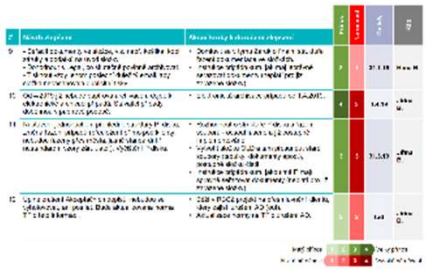
- Suggestions for process improvements to all confirmed causes
- Implementation plan
- Communication plan
- Risk analysis and measures to minimise failures

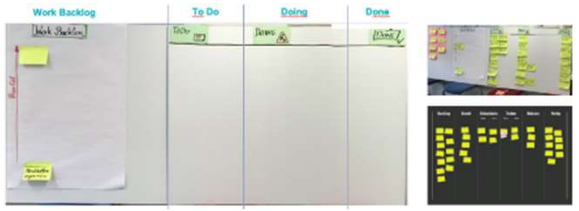
Examples of outputs:



Prioritisation of solutions

Quantification of ideas and detailed description





Implementation plan

5. VERIFICATION OF PROCESS IMPROVEMENTS

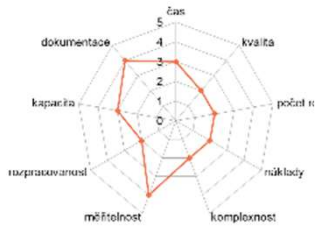
CONFIRM PROCESS IMPROVEMENT AND SET PROCESS CONTROL RULES

- We will measure the effect of the changes introduced and evaluate their impact. We will prepare the overall documentation for the new process - according to customer requirements.
- We train users and process owners on the new process.
- We calculate the actual impact (Business Case) and set measurable KPIs and process them into a dashboard.
- We define process KPIs and set rules for their continuous evaluation.
- We will evaluate the "Lessons learned" and prepare to hand over the process to its owner.

Outputs from this phase:

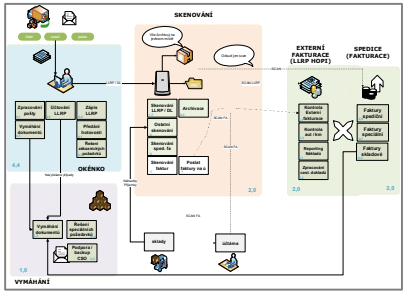
- Process documentation of improved process + KPI Dashboard
- Process KPIs and evaluation plan
- User training
- Lessons learned throughout the project

Examples of outputs:



Setting process KPIs

Draft KPIs



Visualisation of the new measures

Dashboard

About us:
ICG Integrated Consulting Group

ICG INTEGRATED CONSULTING GROUP

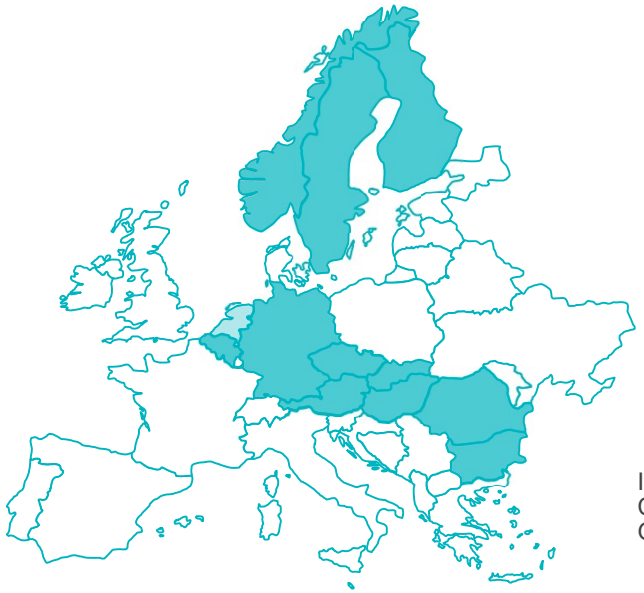
ABOUT US

We are a consulting company operating in 12 European countries with more than 35 years of experience. We focus on process improvement using methodology of Lean Six Sigma, business innovations and change management. We deliver particular projects, trainings and combined programs to our clients in both service and manufacturing organizations.

140
CONSULTANTS

12
COUNTRIES

35
YEARS



Integrated Consulting Group

7 values of our company

1. The customer is always our top priority. We build long-term relationship based on trust.
2. We deliver more than the customer expects.
3. We are committed to results. We are rewarded for the supplied value.
4. We fully adapt to specific needs and requirements of the client.
5. Positive feedback from the customer is the main indicator of success for us.
6. Whatever we do, we want to do it as the best one in our field.
7. We do, what we enjoy, and we want you to enjoy it as well.

Global Partnerships

innova management institute
CHINA

SCHAFFER CONSULTING
USA

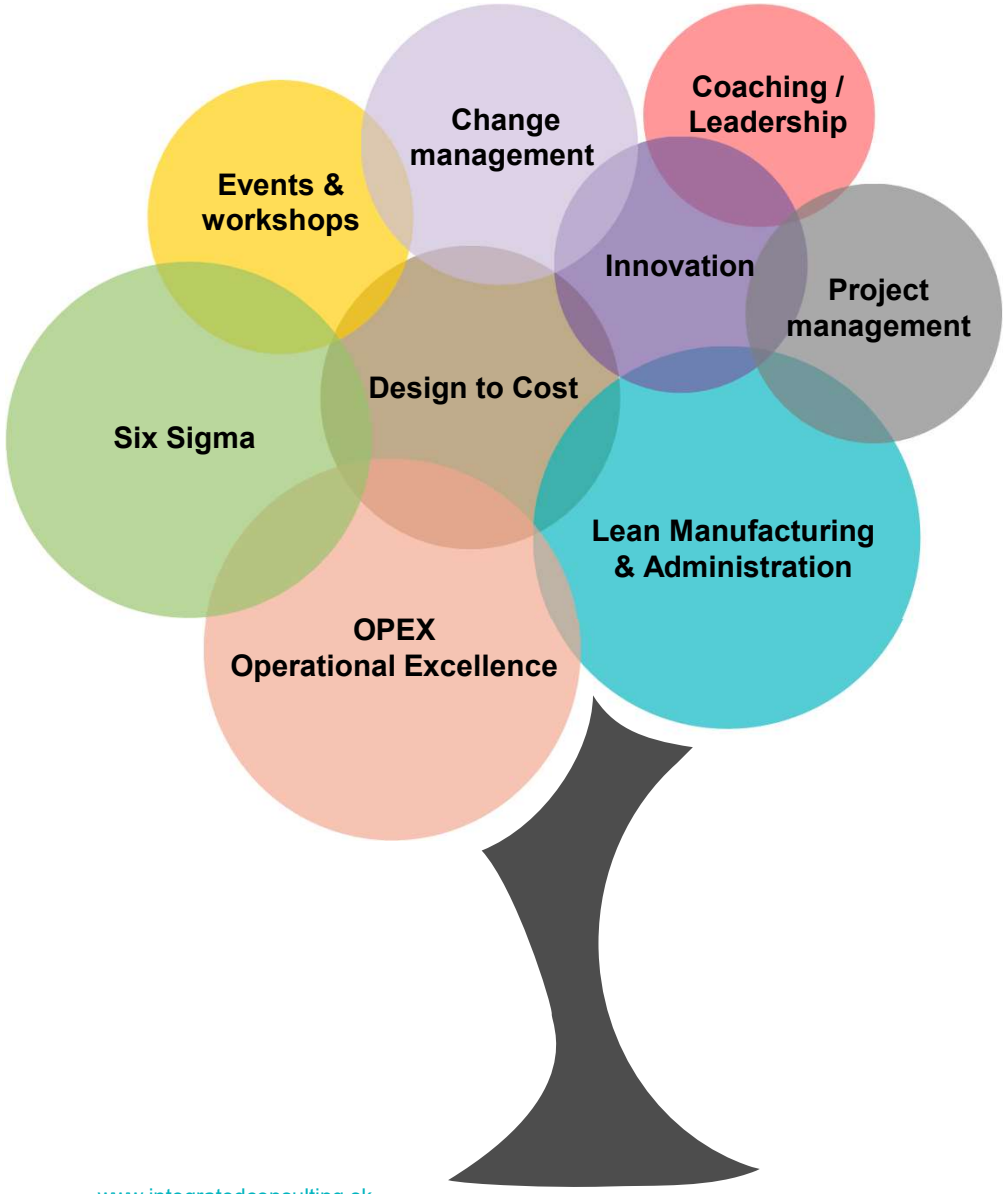
change factory
EUROPE

WAY OF OUR WORK: CO-CREATION

- In our work, we effectively combine expert project knowledge with soft techniques to work with people and develop people. We offer and combine tutorials, training and coaching.
- Our work is based on engaging people and using innovative approaches. Consultations and analyzes are combined with group workshops to ensure the necessary commitment to change.
- We implement the projects together with the client. This will make it easier to accept the proposed changes and help transfer knowledge and methodology to the organization of the client.
- In case of interest from the client we provide detailed certified internal staff training for selected methods and procedures for process management, improvement or change management.

We transfer our know-how to your employees so that you stay in your company after the project is over

OUR SERVICES



Operational Excellence
Process optimization | Identify opportunities - Process Audits | Process mapping | Process design | Cost reduction | Business process management

Six Sigma
Certified Lean and Six Sigma | Training | Six Sigma coaching | Implementing Lean Six Sigma into an organization | Interim Six Sigma Black Belt | Data analysis

Lean
Training of Lean techniques and tools | Value Stream Mapping | SMED optimization | Lean Culture | Simulation for Lean Tools Exercise | KAIZEN workshops | Lean Administration

Change Management
Change management | Changes with rapid results | Culture Diagnosis| Communication of changes | Change management training | Motivation and goal setting training

Project Management
Project support | Project management | Strategy of PMO Project office | Project management training

Innovation & Creativity
Innovation of products and services | Innovation workout | Strategic innovation | Innovation trainings | Creative problem solving | TRIZ | Design Thinking

Workshops & Events
Increase the efficiency of internal workshops | Mobilizing Large Groups | Specific problems solving | Training of workshop facilitation | Outdoor Training Programs

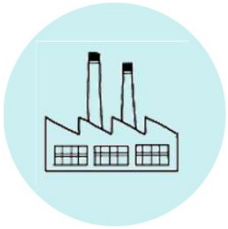
Design / Design to Cost
Design for X | Design to Cost Academy | Development of new products and services | Developing new „Business Model“| Total Costs Management

Leadership / Coaching
Coaching | Presentation skills | Right communication | Conflicts and how to deal| Sales skills| Mentoring | Trainings

A TEAM OF PROFESSIONAL PERSONALITIES

- Our team consists mainly of experienced consultants and some high potential junior consultants
- Our ambition is to have a good mix of different personalities, women and men, old and young, with different nationalities and academic backgrounds
- Every consultant has strong process competences and appropriate social skills
- Every consultant has know-how in at least one of our key competences: strategy, innovation, organization, controlling or leadership
- We all enjoy our work and engage ourselves fully in our projects – there are no strict management functions, all consultants are key persons
- For each core competence we have at least 5 in-house top professionals with a strongly established market position
- It is important to maintain the variety of different personalities in preferably hierarchy-free environment – we are all vivid personalities of different age

HUNDREDS OF CUSTOMERS



Production Industry

Retail

Service Industry

State-Owned Company

Health Organization

Public Administration

University

Non-Profit-Organization

PRODUCTION INDUSTRY: ABB | Ahlstrom | Alcatel Lucent | Andritz | AVG Technologies | AVL | Bayer Material Science | Bayer Schering | Berndorf | BMW | Boliden Kokkola | Bosch | Carlsberg | Carrier – United Technologies | Coca-Cola | Constantia | Dacia Renault | Daiichi-Sanko | Danisco | Dorma | Ericsson | Evonik | Fazer | Fortum | Fresenius | Geberit | Head | Heineken | Heraeus | Hoffmann La-Roche | Knorr-Bremse | Kone | Konecranes | KWB | Lenzing | LISEC | Magna Steyr | Mann+Hummel | Mayr Melnhof AG | Metso | Michelin Romania | Mitsubishi Heavy Industries/Rocla | Momentive | Neste Oil | Nokia | Nokian Tyres | Norpe | Novartis | Orion | Outokumpu | Pepsi | Petrom OMV | Philips | RÜTGERS | Sandvik | Sanofi-Aventis | Sappi | Scandia | Schaeffler INA | Schenck Process | SMA Solar Technology | SMS Siemag | Speech Processing Solutions | Stora Enso | STRABAG | Teleste | Texas Instruments | Thyssen Krupp | Tieto | TMD Friction | Tondach | Tridonic | UPM | Vacon | Vaisala | Valio | Velux | Videoton | VTI | Waagner Biro | Wacker Neuson | Wärtsilä | Zwack

RETAIL AND SERVICE INDUSTRY: Airport Graz/Vienna | Accenture | Acredia Insurance | Allianz | ASA | Austrian Post | AVIS | BKS Bank | Budapest Bank/GE | Conwert | Coop eG | DB Regio | DB Schenker | E.ON | E-Plus | Erste Group Immorent | German Railway | Helsinki OP Bank | ISS | Kleine Zeitung | Klöckner | Metro Group | Neuroth | NORDEA | One / 3 | Praktiker | Prisma – Euler Hermes | Raiffeisen International | Saubermacher | Service Innovation Group | Styrian Saving Bank | Suntours | Telekom Austria | Verbund | Vodafone | Zurich Group

STATE-OWNED COMPANY, HEALTH ORGANIZATION: AKH Vienna General Hospital | Austrian National Bank | Austrian Patent Office | Austrian Railways | Cncaf Minvest | Energy Styria | Federal Computing Centre | Federal Forests of Austria | Federal Theater | Feibra | Finnair | Finnish Institute of Occupational Health | Finnish Railroads | Forest Ministry | German Society for International Cooperation (GIZ) | Holding Graz | Hospitals Köln | ITSV | Linz AG | Magyer Posta | Municipality Munich | ÖBB Austrian Public Bus Company | Romanian Post | Social Security Institution | Styrian Medicine Institutions | SUVA Swiss Insurance Company | Tarom | Theater of Graz | Veikkaus

PUBLIC ADMINISTRATION, UNIVERSITY AND NON PROFIT ORGANIZATION: Aalto University | Austrian Federal Ministry of Agriculture, Education, Environment, Finances, Health, Internal Affairs, Science and Culture, Social Security | Business University Vienna | City of Graz, Helsinki, Linz | Euma | European Commission | European Forum Alpbach | European Institutions | EUSA | Federal Chancellor Department | Fraunhofer | German Academy of Technical Sciences | Graz University of Technology | Highschool in Gävle | Kemi-Tornio University of Applied Sciences | Labor Union of Private Employees | Provincial-Government of Berlin, Hamburg, Lower Austria, Salzburg, Styria, Upper Austria, Vorarlberg | Romanian Federal Ministry of Finance | Senior Expert Service | Tekes | University Klagenfurt | WKO

Integrated Consulting Group

Your Partner in Change.

Make an impact.

Your Partner in Change.