

## THE SEARCH FOR POTENTIAL SAVINGS IN INDUSTRIAL COMPANIES IS OFTEN LIKE LOOKING FOR THE PROVERBIAL NEEDLE IN A HAYSTACK.

The more complex manufacturing systems, supplier networks or indirect areas are, the more difficult and time-consuming it is to identify hidden cost drivers and starting points for optimizing cost structures. Systematic assessment procedures based on the model of the raster search can change this.

In the search for wanted persons, such as terror suspects or kidnapped victims, time is often the decisive factor. Law enforcement authorities have developed specific methods and techniques for such purposes which allow them to quickly identify the information sought from a large number of persons or places. For example, in a grid search, certain characteristic values that apply or do not apply to the search criteria are used in order to gradually limit the number of potential sources. Data mining methods use similar techniques to extract usable information from large amounts of data.

### 30% OF OPERATING COSTS REMAIN UNDISCOVERED

Industrial companies looking for starting points to reduce their operating costs often face similar challenges when it comes to identifying hidden costs in their value creation processes. The more complex the processes at the respective location, the more diverse the possible factors influencing operating costs. In addition, there are regional differences and increasing product individualization, which make it difficult to compare cost structures across locations and product groups. As a result, up to 30% of the cost drivers in direct and indirect costs remain undiscovered on average. In order

to leverage this potential, new methods are needed to enable industrial companies to quickly and effectively identify hidden costs in their value creation processes.

### DETERMINE COST DRIVERS IN FOUR STEPS

With the OPEX Fast Ramp-Up approach, ROI has created an effective instrument for determining and evaluating potential cost savings, which forms the basis for quickly adapting its own cost structures to volatile market developments. The focus is on a multi-stage systematic assessment process that examines all direct and indirect areas of the

company. In accordance with the principle of the grid search, the potential influencing factors on the operating costs at the location are gradually narrowed down further, tak-

ing into account structured data, in order to derive the measures with the highest cost reduction potential. Deployment teams, consisting of several "cost profilers", carry

out the analysis on site over a period of 48 hours. Overall, the procedure comprises the following steps: (see Fig. 1 / page.12)

# RASTER SEARCH FOR HIDDEN COSTS

## YOUR EXPERT FOR OPEX FAST RAMP-UP

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Dr. Kai Magenheimer





### ASSESSMENT AGENDA - EXAMPLE

	STREAM 1 FINANCIAL FOCUS	STREAM 2 TECHNOLOGICAL FOCUS	
DAY 1	Kick-off & plant presentation		1,5h
	Plant tour – Waste walk		2,0h
	Master data verification	Technology chains & utilization	3,5h
	Org. structure & headcount		
	Plant cost structure		
Day summary & definition of deep dives		1,0h	
DAY 2	Indirect Analysis (Order To Cash)	Value stream, process flow & scheduling	2,0h
	In- & outbound material flow	OPEX Lean Scan	4,0h
	Warehousing / internal logistics		
	Supply chain & inventory analysis		
	Day summary & definition of deep dives		1,0h
DAY 3	Quality Analysis	Labour Productivity	2,0h
	Deep Dives		3,0h
	Derivation of potentials, open issue & preparation		1,5h
	First feedback to the management		1,0h

### DATA GATHERING TEMPLATES - EXAMPLE

**DATA OVERVIEW**

Legal Entity	Unit	Definition	Data gathering (04/2017-03/2018)
Plant			Plant
Net Sales	Euro		
Product group 1	Euro		
Product group 2	Euro		

**HEADCOUNT & FTE**

Plant	Cost center number	Cost center/ Profit Center	Cost Center Description	direct - productive	Indirect	total	direct - productive	Indirect	total	Leasing (direct)	Leasing (indirect)	Leasing (total)	FTE (total)
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00
				0		0			0.00			0.00	0.00

**TECHNOLOGY CHAINS**

Core Plant	Part families	Process steps						FTE p. Plant			
		1	2	3	4	5	6	A	B	C	D
Core Value Chain and Buy	Final Assembly	Cleanroom Assembly	Eol. Test	Package				71	35	15	10
	Synthesized components	Machining	Cleaning	Surface conditioning	Hydroth. Synthesis	Heat treatment	Trimming	48	-	-	23
	Surface treated components	Machining	Cleaning	Surface treatment	Superfinish (if requested)	Assembly	Package	35	12		35
	Transmitter	Membrane welding	End comp. welding	Inspection	Package			25	11	-	17
	High sophisticated Machining	Machining (incl. minor assy)	Cleaning					10	15		

Fig. 1

**Scope individual agenda with two streams incl. tasks and responsible persons in the plant for an efficient preparation and conduction of the assessment**

**Standardized data templates for upfront preparation to support assessment analysis most efficient**



**1. MISSION PREPARATION**

The optimal preparation of the teams on site is crucial for a quick and effective finding of the cost drivers. Only if they know exactly what has to be done at what point in time an effective assessment process can be ensured. To this end, ROI has developed a standard protocol that ensures that all on-site activities are interlinked and that no unnecessary time is lost. In two streams, the on-site intensive teams conduct structured investigations in direct and indirect areas. Standardized data templates ensure that all required data is captured completely.

**2. IDENTIFICATION**

In the first phase of on-site deployment, the teams explore the processes on site, identifying the areas with the greatest potential for cost savings. In doing so, they rely on an extensive set of standardized assessment tools and methods, such as the ROI OPEX Scan, value stream analysis or waste walks, with the help of which hidden costs or efficiency gaps can be reliably determined. Only where the initial examination reveals abnormalities or deviations are targeted, in-depth analysis are carried out afterwards. (see Fig. 2)

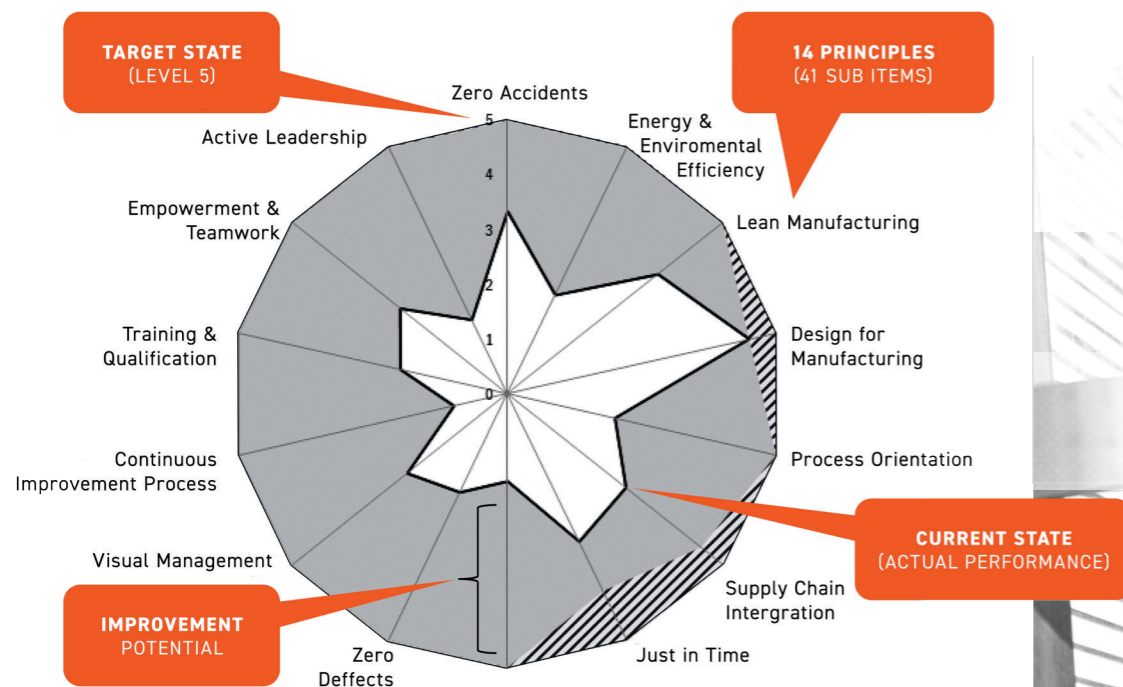


Fig.2

**3. DETERMINATION AND QUANTIFICATION OF POTENTIAL**

In the subsequent deep dives, the on-site intervention teams carry out further analysis to quantify the cost savings potential in the identified potential areas. These range down to the set-up times of individual tools. Using advanced methods such as Paper Kaizen, OEE, SMED or RME analysis and comparisons with internal best practices, the cost savings in the respective areas can be quantified in concrete terms, for example in the form of reduced lead times or reduced failure rates. (see Fig. 3)

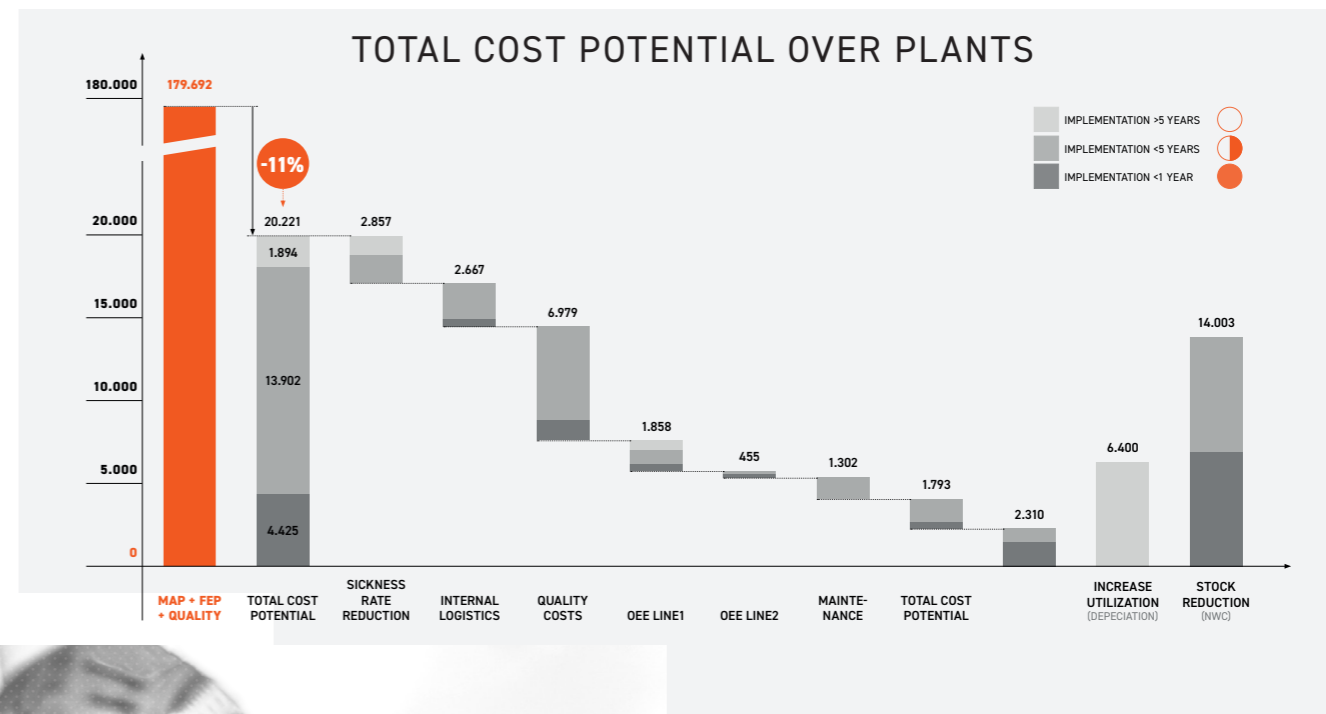


Fig. 3

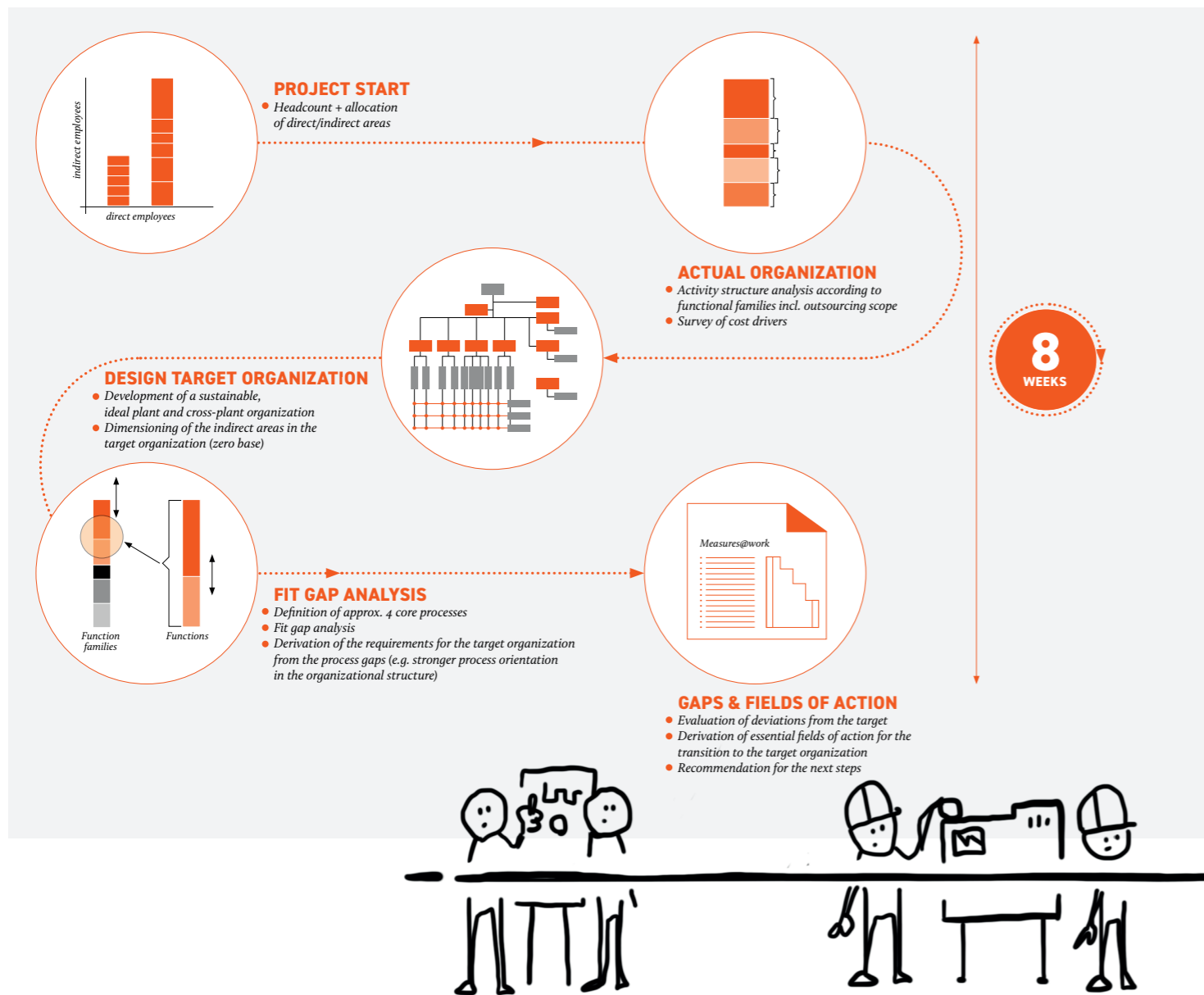
**4. ACTION DERIVATION & ROADMAP DEVELOPMENT**

In the next step, concrete measures (counter-action) to reduce operating costs can be derived from the information obtained in this way. Due to the high level of detail of the previous analyses (deep dives), initial improvement measures, such as the automation of individual process steps, are already available after the analysis phase. These can be implemented immediately and immediate savings potentials can be leveraged. These can be combined into a plant-specific roadmap, which provides a detailed implementation plan for cost optimization at the respective site.

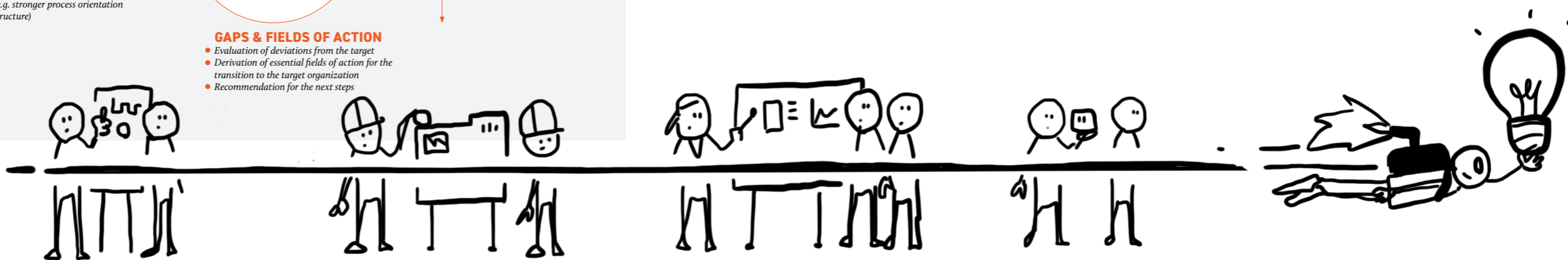


**ROI  
SWAT**





# IN 8 WEEKS TO THE COST EFFICIENCY ROADMAP



With the action plan described in this way, a roadmap ready for implementation can be developed within a few weeks to raise the cost potential, which not only concentrates on identifying short-term cost savings, but also on the sustainable optimization of the value-added processes and thereby ensures long-term cost optimization.

### RASTER SEARCH

Multi-stage assessment process to quickly identify influenceable cost drivers within a large set of potential influencing factors using increasingly detailed search criteria. The prerequisite is a structured database using standardized assessment tools.

### COST PROFILER

Teams of experts to carry out cost assessments on site. You have a high methodological competence and experience in Lean Management. When they are deployed, they follow a strict schedule to efficiently complete all assessment stages.

### ASSESSMENT TOOL KIT

Comprehensive set of methods for the systematic identification and evaluation of potential cost drivers on site by cost profilers. A high level of standardised scans and tools to improve the comparability of data between plants or divisions.

