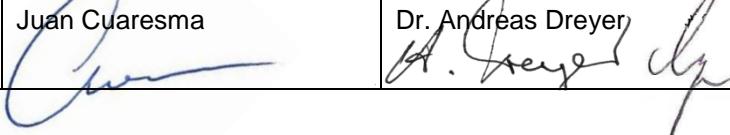
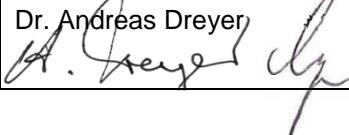


Procedure: Visual Management Plants

Maturity	Creator	Process Owner	Change Reason
<input type="checkbox"/> draft	Robert Englbrecht Juan Cuaresma	Henner Cnyrim Dr. Andreas Dreyer	Elevation on Automotive level. Addtions to and update of content (see 9 Doc. History)
<input checked="" type="checkbox"/> valid			

Objective

Subject: Visual Management is defined by Continental Business System (CBS) and Corporate Quality as a method that supports the implementation of lean thinking and of a common, highly developed quality culture.
 The procedure provides mandatory rules for the execution of visual management as well as examples for the implementation of optional elements.
 This procedure is applicable for all Continental Automotive production plants. However, it shall be applied for non-production locations when applicable.

Goal: Support the standardization of processes and foster the development of a common company culture resulting in stronger identification with the company.

Make this standardization visible to our customers as well as all other visitors.

Develop one simple view capability for everybody on the shop floor which includes our processes and flow for critical elements, performance, improvement actions, and recognition of standards and deviations.

Scope

This regulation applies for:

Continental Automotive and its majority interests as well as minority interests with management control by Continental Automotive.	<input checked="" type="checkbox"/>	
Division	<input type="checkbox"/>	
Business Unit	<input type="checkbox"/>	
Automotive Function	<input type="checkbox"/>	
Region	<input type="checkbox"/>	
Country	<input type="checkbox"/>	
Site	<input type="checkbox"/>	
Plant	<input type="checkbox"/>	
Other	<input type="checkbox"/>	

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1 Introduction

Visual Management is a major instrument within the corporate initiatives CBS (Continental Business System) and Quality First.

With the implementation of standardized Visual Management elements in all locations, we support the standardization of processes and foster the development of a common company culture as well as a stronger identification of employees with the company.

This standardization becomes visible to our customers as well as to all kinds of visitors. This contributes to improving customers' confidence in Continental's ability in steering performance on a global level and to establishing a common Continental culture.

Beyond providing standardized information and ensuring a harmonized "look and feel", Visual Management applies Visual Controls which

- Brings focus to the process and flow, thus driving improvement
- Provides effective means to reveal process adherence and deviation
- Opens up effective means of communication
- Provides ability to monitor all areas (receiving, production, shipping)
- Connects people to the process.

The use of specific visual tools increases awareness and stresses the importance of reacting on the spot. They support establishing teams of highly motivated and qualified employees taking full responsibility. They can be low cost and still be highly effective e.g. a "first glance apprehension capability" in terms of process flow, line performance, improvement progress and recognition of standard compliance and deviation. They are intended to support all levels of the workforce in their daily work including Leader Standard Work (Shop Floor Management, Process Confirmation). Data captured on Visual Controls are updated regularly

- Operators Briefings
- Labour Plans
- Important Announcements
- Staffing Situation Evaluations
- Previous Day Performance Checks
- Process Issues Reviews
- Team Assignment Reviews
- Countermeasure Assignments

The benefits will be ensured accountability for having completed the previous days assignment and will improve the work standard.

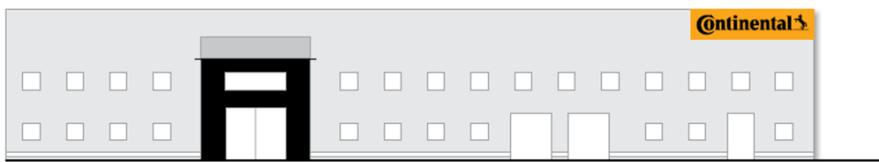
The implementation of visual tools supports other CBS methods and shall be applied according to the status/maturity of implementation of those respective method.

2 Signage

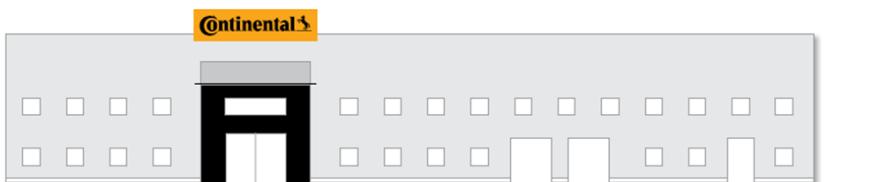
The sign type and size of signs, flags, building-facades, rooftops, etc. is determined in the Corporate Communication Guideline "Signage". The Link is listed in the Implementation Guide that is attached to this procedure. The "Signage" Guideline includes rules for the interior as well as for the exterior design of Continental locations.

This procedure "Visual Management Plants", deals with the elements of Visual Management inside a building while incorporating the applicable aspects of the Guideline Signage. The exterior design of locations is covered by the Guideline Signage.

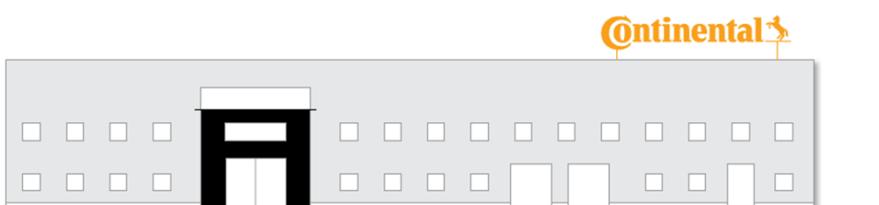
Signage examples. Buildings - facades / rooftops / 3D lettering.



The roof panel and facade panel must be clearly visible from a distance and therefore ensure immediate identification.



Facade and roof elements always bear the black Continental logo on a yellow background and are mounted on, or directly attached to, the facade. The actual size of the roof or facade panel is to be determined according to the situation at the site and tailored to suit the building's dimensions and structure.



An alternative rooftop design consists of free-standing 3D lettering, which can also be illuminated. If it is lit, make sure that the sign is sufficiently bright.

Please ensure to take the structural situation and local regulations into consideration when planning and implementing these types of signs.

Permits for exterior advertising installations
Before installation of the roof panels begins, a permit needs to be granted by the responsible local planning agency for the fixtures used to attach the panels.



Recommended size of logo and background

Chapter 2, Picture 1: Communication Guideline "Signage" (Extract)

3 General Elements of Displaying Information

3.1 Overview

The elements of general Visual Management are divided in **three main categories**. For each category, mandatory and optional elements are determined. The mandatory elements describe a minimum standard for every location. The optional elements are suggestions and do not represent a complete list of all options. According to local requirements, further optional elements can be added as long as they correspond to the Corporate Design Policy. Single Business Units or CEP can also change the status of an element from 'optional' to 'mandatory', but not vice versa.

For the selection of information to be displayed, the guiding motto shall be "less is more". Think about which messages are important to provide and which action or behavior you want to trigger. Too much information will confuse people, and messages get diluted.

Main Categories	Elements	Mandatory	Optional
Entrance Area	Monitor	X	
	Corporation Messages	X	
	Location Messages	X	
	Products	X	
	Customers		X
	Awards		X
Central / Area Boards	Employee Information	X	
	KPI Section	X	
	Program Section	X	
	Line / Area Introduction / Overview		X
	Product Introduction		X
	Customer Information		X
	Line Layout		X
Line Information Boards	Name & Function of the line	X	
	CBS Line Certification Panel	X (CEP)	
	KPI: Days without customer reject	X	
	KPI: Output	X	
	KPI: Scrap		X
	KPI: 0km ppm		X
	KPI: OEE		X
	KPI: FPY		X
	Jidoka Escalation	X	
	Action Plan	X	
	Manufacturing caused customer returns	X	
	Standard Operation Sheet		X
	Layered Process Audit		X
	Line Staffing / Team Information		X
	People Qualification / Skill Matrix		X

3.2 Design of the Boards

Boards used in the Entrance and Production Central Area are not necessarily boards in a classical sense. According to the new Corporate Design Guideline **Signage**, pinboards can be used in 3 styles: as a wall system, as a floor mounting system or on wheels as a moveable system.

Examples signage. Information signs.

These signs are for general information and machine or area labeling. The signs provide information about production flows and work flows. They add up to form a uniform visual design inside the production halls and corridors. The signs are affixed directly onto walls, machines or hanging from ceilings.

Signs can be designed bilingual: text is always black. The background is always white. The Continental logo can be placed in the yellow version optional at the top right.

The size of the Continental logo and the typography is flexible and should be adequate to the size of the sign and the local premises.

As an exception a tire version with white text and black background is possible.

Margins are always one half x of protection area

Chapter 3.2, Picture 1: Communication Guideline "Signage" (Extract)

Only the boards used at the Production Lines should be boards in a classical sense – i.e. they should be removable / re-locatable.

Examples signage. Pinboards.

The signs provide the employees in the departments with easy-to-read information inside the offices. The bulletin board's pre-defined grid for attaching notices guarantees a systematic and strict arrangement. The whole surface can be used for information. It has many advantages: it is flexible, easy to use and can be altered quickly (pockets in A4 portrait and landscape formats).

All information is placed in transparent pockets on the bulletin board. Above there is a header containing the text "Information".

Text is black. The background is always white. The Continental logo can be placed in the yellow version optional at the top right.

The size of the signs is flexible and should be adequate to the local premises.

The pinboard can be used in three versions: as a wall system, as a floor mounting system or on wheels as a moveable system.

As an exception a tire version with white text and black background is possible.

Margins are always one half x of protection area

Chapter 3.2, Picture 2: Communication Guideline "Signage" (Extract)

For ease of understanding, the CAP will use in the following the term 'Board' regardless how the information area is defined by the location.

The colors used for the boards have to correspond to the Corporate Design Policy – **Signage** and can be found in the intranet under Brand House / Design Guidelines.

The Link is listed in the Implementation Guide that is attached to this procedure.

The size of the boards shall be defined considering an adequate relation to local plant premises. Boards being placed next to each other shall have sizes fitting to each other (common look, e.g. same height, same size of headline).

3.3 Entrance Area

The definition of the Plants' Entrance Area is not only the entrance door of the plant and the area behind the door, but the guest entrance and the receiving area for visitors. The Entrance Area is focused primarily on customers and visitors, secondarily on the plants staff. Therefore, **all information in this area needs to be available in English as well as in the local language**. The color configuration of the Entrance Area must comply with the Corporate Design Policy. For Automotive, we recommend the Continental Color White or Grey 4 for surfaces according to the actual Continental Corporate Design Guideline **Basic Elements**.

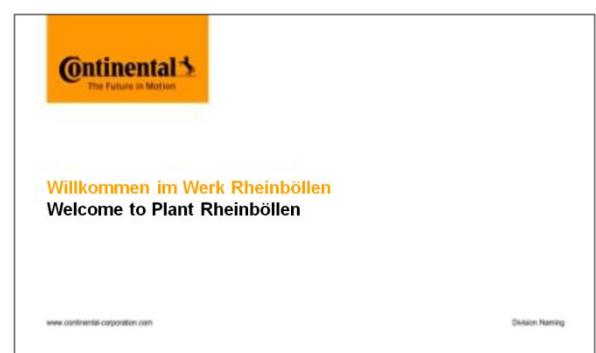
3.3.1 Monitor

The monitor serves as display for welcome-messages for visitors and for information about events of the day / week. The monitor shall be positioned in a way that it is directly visible when entering the Entrance Area. The size is not determined, but needs to be in an adequate relation to local plant premises. Displayed information must be up-to-date. Corporate Design rules have to be applied. We recommend using the Format Style for Automotive – white background and black letters. In case, a black background is more suitable or may support a better visibility under certain light conditions, use the Format Style of Automotive with black background and white letters. A suitable PowerPoint format size for screens/monitors is 16x9.

In case of big locations with several organizational units on the same site and a higher amount of visitors, e.g. a production plant and a development center or a BU headquarter, it may be appropriate to have separate welcome monitors as described above, e.g. for the plant and for the development center. If there are separate waiting areas, additional screens may be installed to "entertain" visitors during their waiting time, showing e.g. product information, news, etc.



Chapter 3.3.1, Picture 1: Possible positioning of a monitor in the entrance area



Chapter 3.3.1, Picture 2: Format Display for Screens

3.3.2 Corporation Messages (Mandatory)

Mandatory content of this section is to display the Corporate Vision headed by the Continental Logo and the Key Message out of the Vision. The Vision and the Key Message shall appear both in English and in the local language. Depending on the available space, corporate posters provided by Corporate Communications may be added, e.g. the Megatrends, Values, etc. The wall background color is Continental White RAL 9003.

The Continental Logo and Key Message should be left-aligned or right-aligned above the Vision text. If the entrance area does not provide the condition to place the Logo left or right, it may be centered. We recommend displaying the Logo and Key Message in a 3 D format for better visualization.

The vision text shall be printed on mountable material (Plexiglas/acrylic glass, brushed aluminum ...). In our Entrance example we printed the vision on brushed aluminum with digital print.



Chapter 3.3.2, Picture 1: Example of arrangement for displaying the Corporate Message in a part of the Entrance Area



Chapter 3.3.2, Picture 2: Example for the Installation of the Logo and Key Message in 2D (left-aligned)

Vision Text Local Language

English Language

Unsere Welt sind hoch entwickelte Technologien für die Mobilität der Menschen, den Transport ihrer Materialien und Stoffe sowie die Übertragung ihrer Daten.

Wir wollen auf jedem unserer Märkte und für jeden unserer Kunden die beste Lösung bereitstellen.

Auf diese Weise werden wir von allen unseren Bezugsgruppen („Stakeholdern“) als ihr im höchsten Maße zuverlässiger und geschätzter Partner wahrgenommen, der höchstmöglichen Wert schafft.

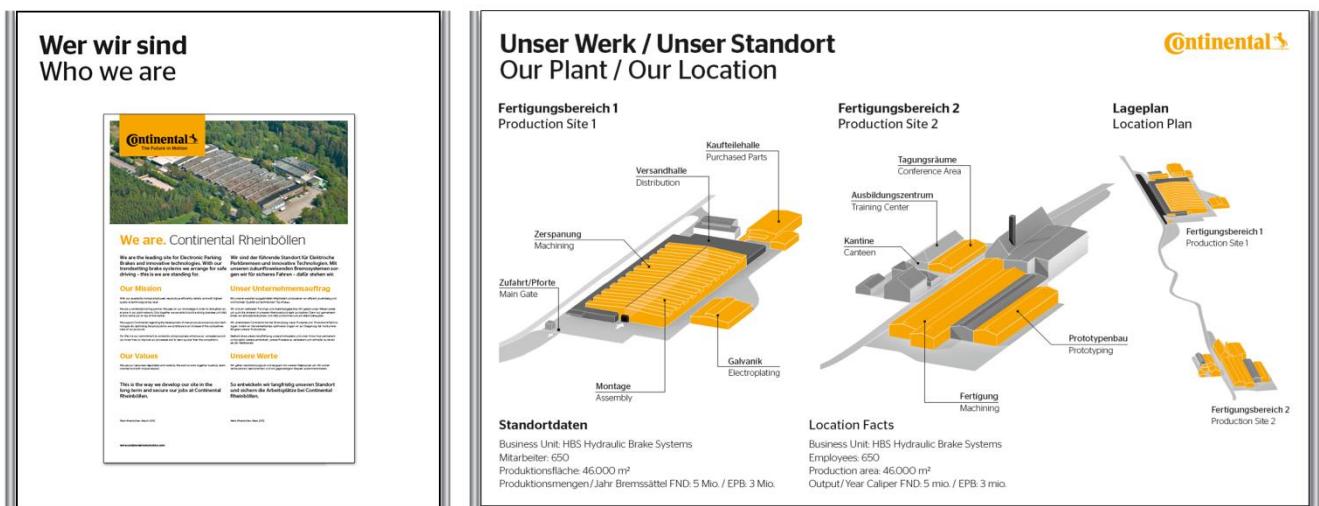
Highly developed, intelligent technologies for mobility, transport and processing make up our world.

We want to provide the best solutions for each of our customers in each of our markets. All of our stakeholders will thus come to recognize us as the most value-creating highly reliable and respected partner.

Chapter 3.3.2, Picture 3: Vision Text – Languages German (example for a local language) and English (mandatory text)

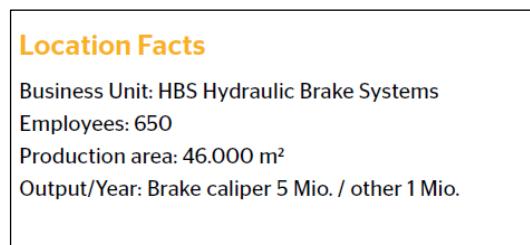
3.3.3 Location Messages (Mandatory)

The **Location Messages** include the **local Mission and Vision** as well as a **Location Overview**. Make sure that the design of posters/boards corresponds to the new Corporate Design Policy. **The information needs to be available in local language as well as in English language.**



Chapter 3.3.3, Picture 1: Example for boards with Location Messages

We recommend presenting major Location Key Data on the Board **Our Plant/Our Location** like business unit(s), number of employees, size of production area, annual output per major product type both in local and English language as shown in the example below.



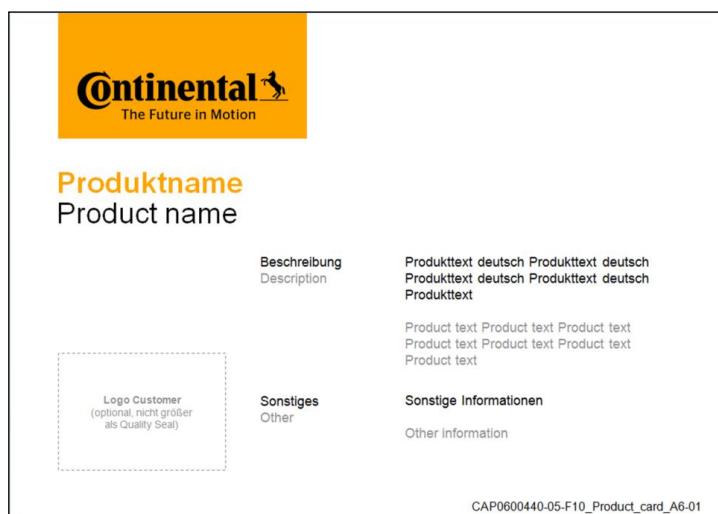
Chapter 3.3.3, Picture 2: Example Location Facts from the Board "Our Plant / Our Location"

3.3.4 Products and Product Description Sheet/Card (Mandatory)

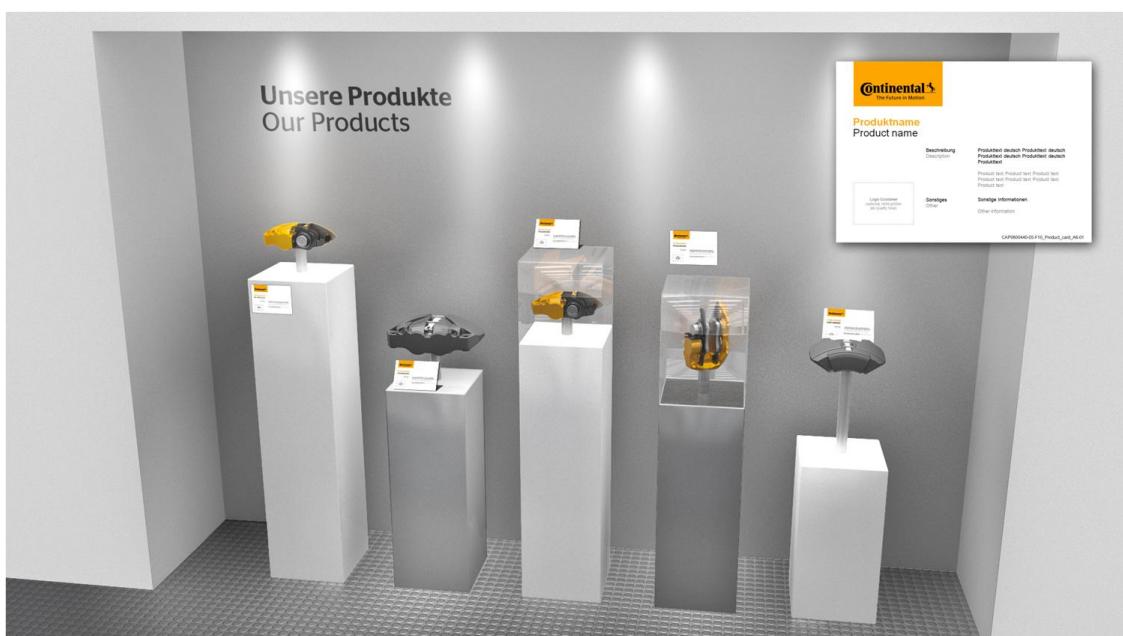
The visualization of Products in the Entrance Area is a mandatory element and can be combined with the optional topic Customers (see 3.3.5). The way of presenting the Products is defined by the location. The preference is to display physical Products when feasible. In case the Product will be displayed on an exhibition pedestal, the color coding for the pedestal should be Continental White RAL 9003 or Grey 2 according to the actual Corporate Design Policy. The color of the pedestal should be selected to provide a harmonic impression together with the Wall Surface Color.

Official product names (approved by the respective BU) on the explanation tags shall be fully written (abbreviations only in brackets if not stated in the common language, e.g. ABS). Components should reference to complete products or systems. Prototype products or components can be displayed with an internal/local product name. The title of the official product name shall be displayed in English and the local language.

The product description sheet/card can be positioned in different ways as shown in *Chapter 3.3.4, Picture 2*.



Chapter 3.3.4, Picture 1: Template for a Product Description Sheet / Card



Chapter 3.3.4, Picture 2: Examples of product displays on pedestals



Chapter 3.3.4, Picture 3: Example of product displays on pedestals in plant Rheinböllen.

3.3.5 Customers (Optional)

You may give an information about the customers that the location is working for. If you display e.g. customer logos, ensure that they are up-to-date and that customers are not offended by either displaying or by not displaying their name or logo. Due to possible contractual agreements with customers, the element Customers is not mandatory. It is possible, to combine the presentation of the Customers with the presentation of Products (see 3.3.4). The presentation of the Customers is defined by the location.

3.3.6 Awards (Optional)

The presentation of Awards, which you received from customers, government or other organizations, is an optional element. The presentation is defined by the location. If you present your awards in a physical way, use a board, where you can affix the awards accordingly or use a pedestal or glass cabinet to display your awards. The style depends on the form and size of your awards.



Chapter 3.3.6, Picture 1: Example for the presentation of Awards

3.4 Central / Area Boards (Mandatory)

The primary focus is on providing information to the plants staff. Customers and visitors information may be seen as side effect. For this reason it is important to place the Central / Area Boards at a highly frequented transit area of the plants staff in or at the production hall and to provide the information in the local language. Where applicable, more than one arrangement of Central / Area Boards may be installed, e.g. in different production buildings, per Focus Factory or in production support areas. The size of the boards depends on local plant premises.

The Central / Area Board is divided into three clearly defined categories of information (**Employee Information / KPIs / Programs**). The titles of the categories shall be displayed in local and English language on top of the boards as shown in the following examples. The contents shall be displayed in the local language.

3.4.1 Employee Information (Mandatory)

The content shown on this board is defined by the location. The scope is: people-oriented programs, messages and information.



Chapter 3.4.1, Picture 1: Example for the Employee section boards (The number of boards you need is depending on the quantity of your information you like to display)



Chapter 3.4.1, Picture 2: Example for the Employee section boards (The number of boards you need is depending on the quantity of your information you like to display)

3.4.2 Key Performance Indicators (KPI) Section (Mandatory)

The KPI boards show at least six different KPI charts. The following six KPIs are mandatory:

- Customer ppm 0km Source: CQTS, BW (Business Warehouse) Reports
 - Customer Incidents 0km Source: CQTS, BW (Business Warehouse) Reports
 - Customer Incidents Field Source: CQTS, BW (Business Warehouse) Reports
 - Supplier ppm Source: SQM SAP
 - Supplier Incidents Source: SQM SAP
 - Non Conformance Cost (NCC) I-III Source: FIRE & SAP Accounts, Global NCC Report

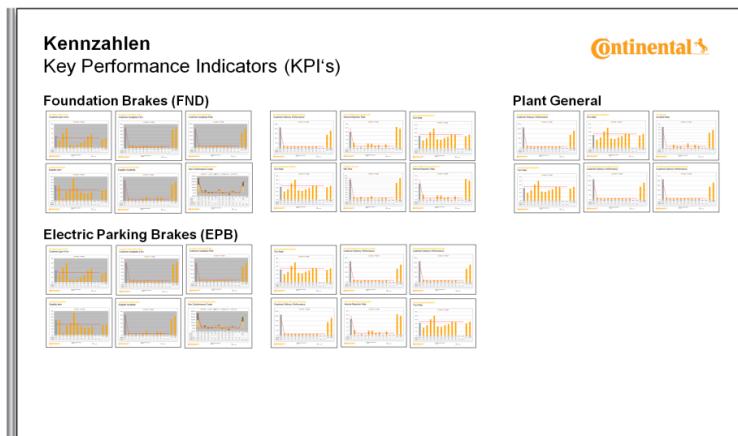
These have to be placed on the top left side. The charts shall have a grey background color within the graph to have a visual differentiation between automotive standard and local standard KPIs.

Additionally, every location is free to show further KPIs (white background for the graph) that are relevant for the location. E.g.:

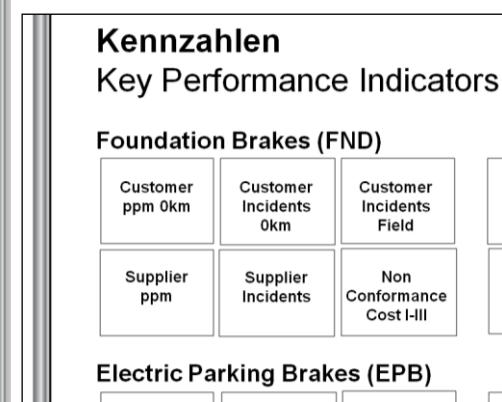
- Customer Delivery Performance
 - Internal Rejection Rate
 - Turn Rate
 - Idle Time
 - Accident Rate
 - Lost Time Rate

KPI charts may be displayed separately per (major) product group where it makes sense.

For the mounting of the KPI charts it is recommended to use magnetic transparent envelopes.



Chapter 3.4.2, Picture 1: Example for board in the KPI Section



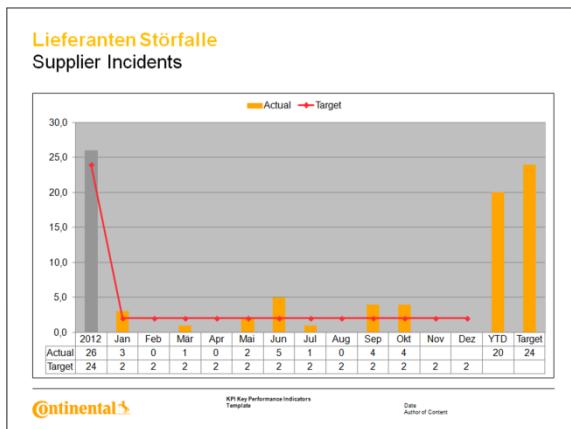
Chapter 3.4.2, Picture 2: Arrangement of the mandatory KPI charts

Template KPI Charts (Mandatory)

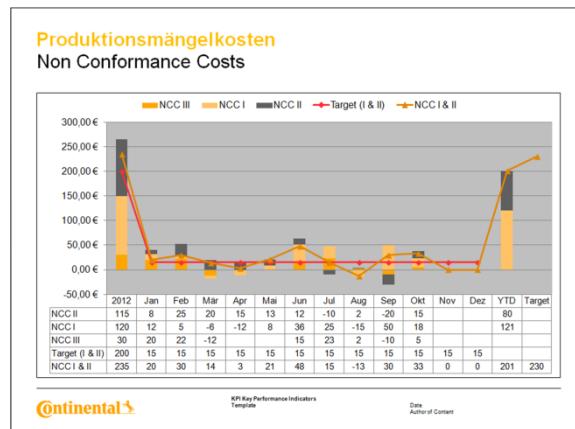
We request the use of the standard chart template KPI stored in Empower and QMS for the requested key data. The templates are in line with the Corporate Design Policy. All further local KPI charts must be in line with the Design Policy. KPI charts have the size A4 or US letter format.

The attached standard template is designed as follows:

- Order:
 - Previous year
 - Twelve months of the current year
 - YTD (Year to date)
 - Target for the current year
- Illustration:
 - 2D (no 3 dimensional look)
 - White background
 - Orange bars without borderline
 - Red target line
 - Scale is adapted to content
 - Currency and language of the content is defined by the location, but has to be consistent for all charts
 - Language of the title is English as well as the local language.



Chapter 3.4.2 Picture 3: Example Supplier Incidents



Chapter 3.4.2, Picture 4: Example Non Conformance Costs

3.4.3 Program Section (Mandatory)

The content of the Program Section is defined by the location. The denoted programs on the example pictures do not represent mandatory content. Make sure that the design of the posters or charts correspond with the Corporate Design Policy. Poster with “old” design may be used for a transition period. However, make sure that there is no mixture of old and new design elements on one poster.

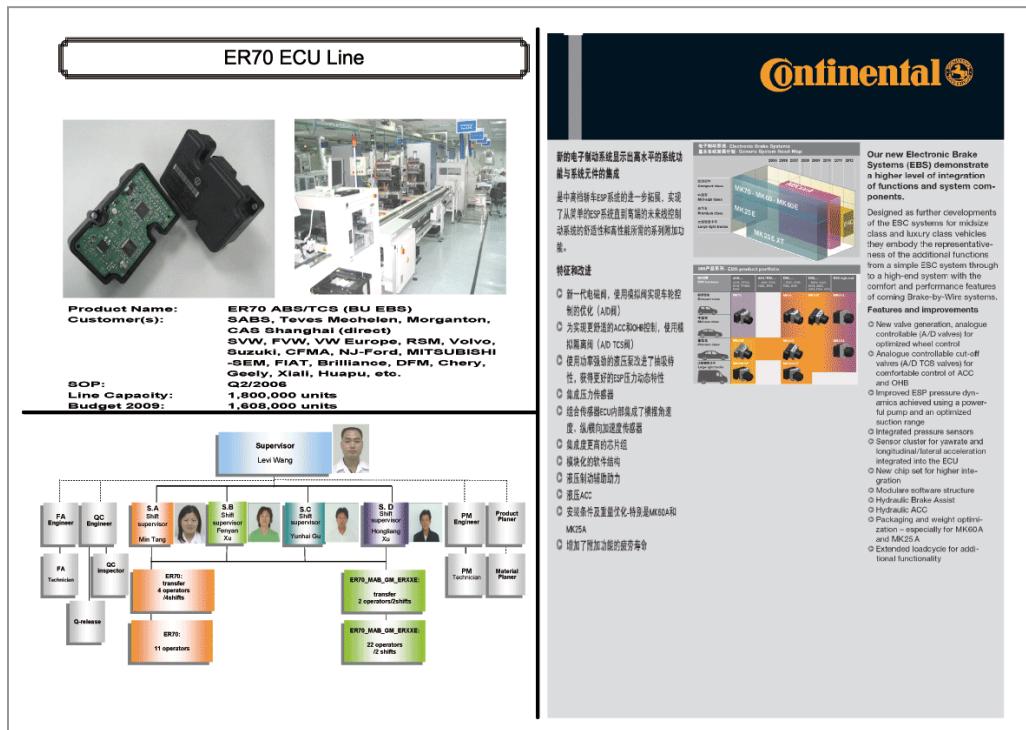


Chapter 3.4.3, Picture 1: Example for board in Program Section

3.4.4 Line / Area Introduction / Overview (Optional)

The Line/ Area Introduction / Overview should give employees and visitors a rough idea on the main characteristics of the lines or logistics area (if not provided elsewhere). Information may include:

- Product Information (see below) if not shown separately.
- Customer Information (see below) if not shown separately.
- Highlights like innovations, new technologies applied, special initiatives, if not shown separately.
- Key figures like line capacity, employee capacity, shift model, number of parts/product per shift, area square meter, volumes handled.
- Other characteristics e.g. class of clean room.



Chapter 3.4.4, Picture 1: Line Introduction, example

3.4.5 Product Introduction (Optional)

The Product Information may contain an illustration of the product (picture, exploded drawing or example of the product), accompanied by some information about the further usage or explanations about the sequence of manufacturing steps, etc.

Employees and visitors get an idea about appearance and function of the product.

3.4.6 Customer Information (Optional)

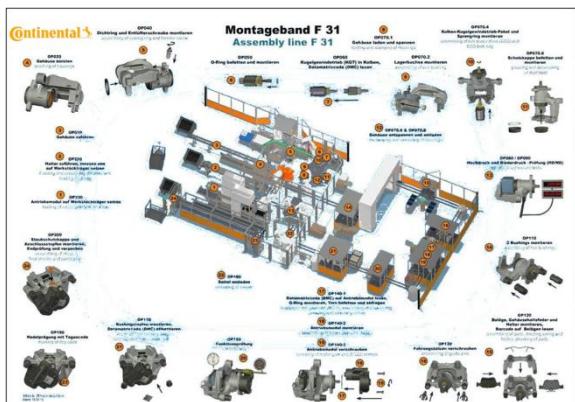
The Customer Information may contain the list of customers the area or line is producing for, along with a chart of the products and their variants, etc.



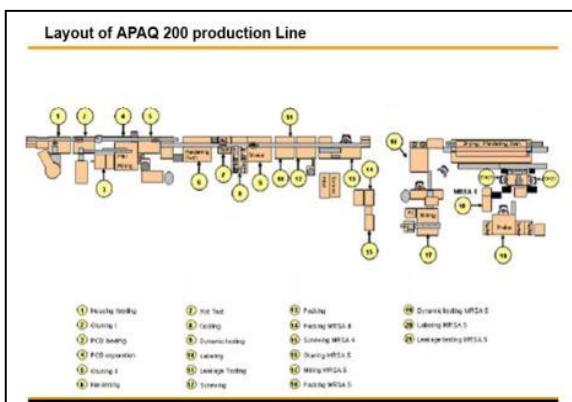
Chapter 3.4.6, Picture 1: Customer Information combined with basic Product Information, example

3.4.7 Line Layout (Optional)

A Line Layout depicts the applied processes and the position of equipment and machines at the production line or section.



Chapter 3.4.7, Picture 1: Example 1° of a Line Layout



Chapter 3.4.7, Picture 2: Example 2° of a Line Layout

3.5 Line Information Boards (Mandatory)

The Line Information Board is primarily a working instrument for the line staff. It contains information and working sheets for the people. It triggers attention to certain topics and action.

The size of the boards is flexible and should be adequate to the local surroundings. The boards may be mounted at the wall or on a movable system but always positioned close to the line. The color is always white.

The language on the Line Information Boards is the local language (except the line name (both local and English language)).

3.5.1 Layout of the ‘Line Information Board’

The “Line Information Board” shall ensure a quick and effective overview on each production line or logistics area

The arrangement of all information elements should be systematically structured and standardized throughout the shop floor. All documents on the Line Information Board must contain name and phone number of the responsible creator and the creation/status date.

Besides the following mandatory, standard elements,

- Line Name (both local and English language)
- Days without customer reject
- Jidoka Escalation Process
- Production Output
- Manufacturing caused customer return
- Action Plan
- CBS Line Certification Panel – **only mandatory for CEP Plants (optional for others)**,

the 'Line Information Board' shall provide free space to arrange additional locally defined information sheets (see Chapter 3.5.1, Picture 1 and 2).

A well-proven board size is about 1200 mm (horizontally) x 1800 mm (vertically) but should be adjusted to local needs (e.g. lower the height to allow for full shop floor overview, not to inhibit the view on Andon lights, flow and people, usage of existing equipment / boards).

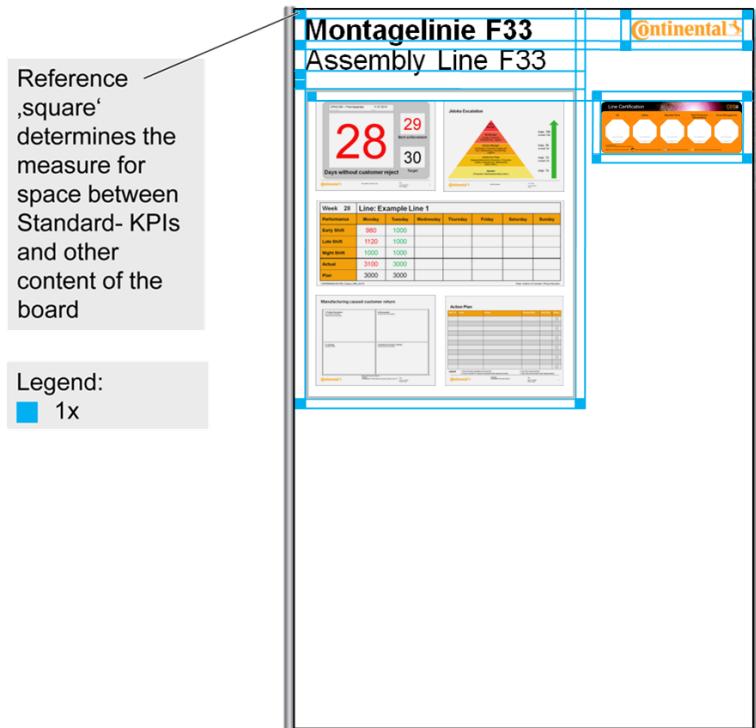
The following rules apply for the arrangement of information on the board:

1. The 5 standard mandatory element “Days without customer reject”, “Jidoka Escalation Process” “Production Output”, “Manufacturing caused customer return” and “Action Plan” have to be placed as one block at the upper left side of the board directly under the line name.
2. The arrangement of these 5 elements has to be in the same way as shown in the example on the next page:
 - a. On the top “Days without customer reject” and “Jidoka Escalation Process” from left to right.
 - b. Next line “Production Output”
 - c. Next line “Manufacturing caused customer return” and “Action Plan” from left to right.
3. The standard block has to be surrounded by a grey line with a width of approx. 10 mm (magnetic stripes recommended, see Chapter 3.5.1, Picture 3).
4. The CBS line certification panel (where applicable, see 3.5.8) has to be placed at the upper right side of the board.
5. The templates for the elements “Days without customer reject” and “Jidoka Escalation Process” are mandatory.

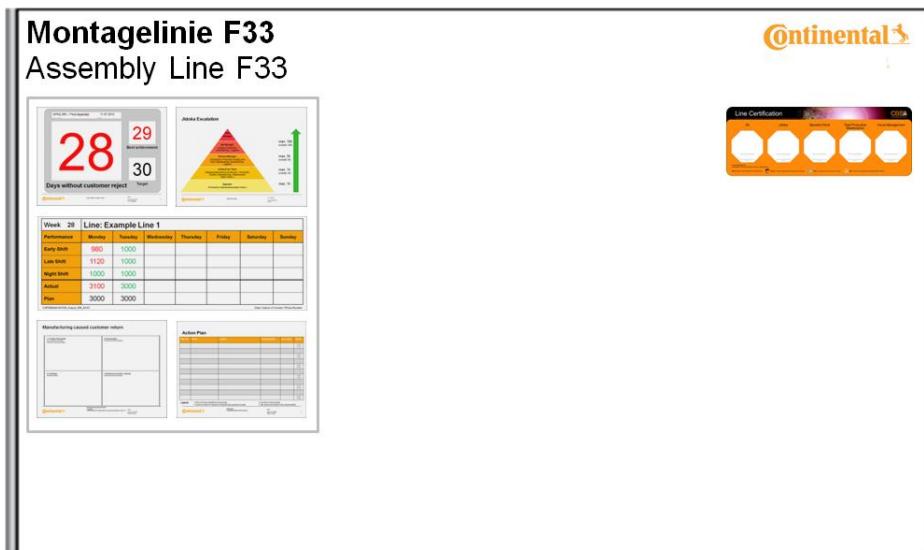
The templates for the elements “Production Output”, “Manufacturing caused customer return” and “Action Plan” are recommended. Local formats may be used as exception, if more detailed information is needed. But, the degree of content of the recommended templates must be included and a similar look shall be ensured.

The templates are available in English and need to be translated into the local language where appropriate for ensuring understanding by the operators.

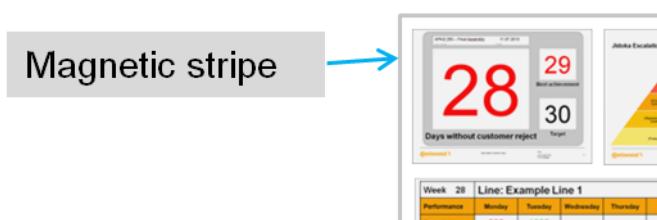
Note: For the definition of the legend of "Chapter 3.5.1, Picture 1" please see: Chapter 3.5.2, Picture 2



Chapter 3.5.1, Picture 1: Arrangement of the standard elements on the Line Information Board with additional free space (portrait format)



Chapter 3.5.1, Picture 2: Arrangement of the standard elements on the Line Information Board with additional free space (landscape format)



Chapter 3.5.1, Picture 3: Detailed view of the standard block surrounded by a grey line

The information elements of the Line Information Board are defined as follows:

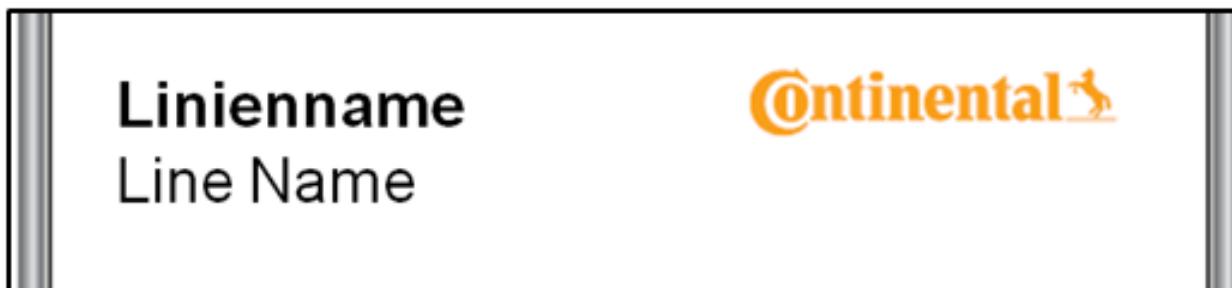
3.5.2 Name and Function

Information about the respective production unit (e.g. line, cell, station, function) or logistics function. As an example, it could read: "APAQ 200 – Final Assembly" or "Assembly Line F32".

Font style clearly follows 'Corporate Design Policy' regulations. In case the required font type **Stag Sans** is not available, use '**Arial**', bold, accordingly. The color of the font is black.

If enough space is available, the Continental logo (orange only) may be added at the top right.

The Continental Logo is an optional item on boards.



Chapter 3.5.2, Picture 1: Header of an info board (here: local language is German)

If the Continental logo is added on the board, please consider the logo protection area, determined in the Corporate Communication Guideline "Signage".

Branding placement. Logo protection area, placement, and size.



The protection area of the logo is reduced for signage to 1/2x so that the logo can be as big as possible.

The logo is always placed within the given format at the top, across the full width, with a protection area of 1/2x.

The side margins for all elements of a sign therefore always equal 1/2x as well.

Chapter 3.5.2, Picture 2: Communication Guideline "Signage" (Extract)

3.5.3 KPI: Days without Customer Reject (Mandatory)

The "Days without Customer Reject" chart shows the number of consecutive days without a 0km complaint from any customer (0km complaint = 0km incident in CQTS = official customer notification about a 0km complaint). The purpose is to inspire and motivate reaching the goal of zero defects.

The days counted on the chart are full calendar days, not working days. The date of the complaint is the earlier of date of customer notification or registration date in CQTS. The date entered on the Days without customer reject chart is the date of the update. All 0km customer complaints count, independent from whether they may be rejected, show up as NTF, or are under discussion with the customer in any

other way. The goal is to reduce the number of customer incidents. That includes helping the customer to avoid failures on his side.

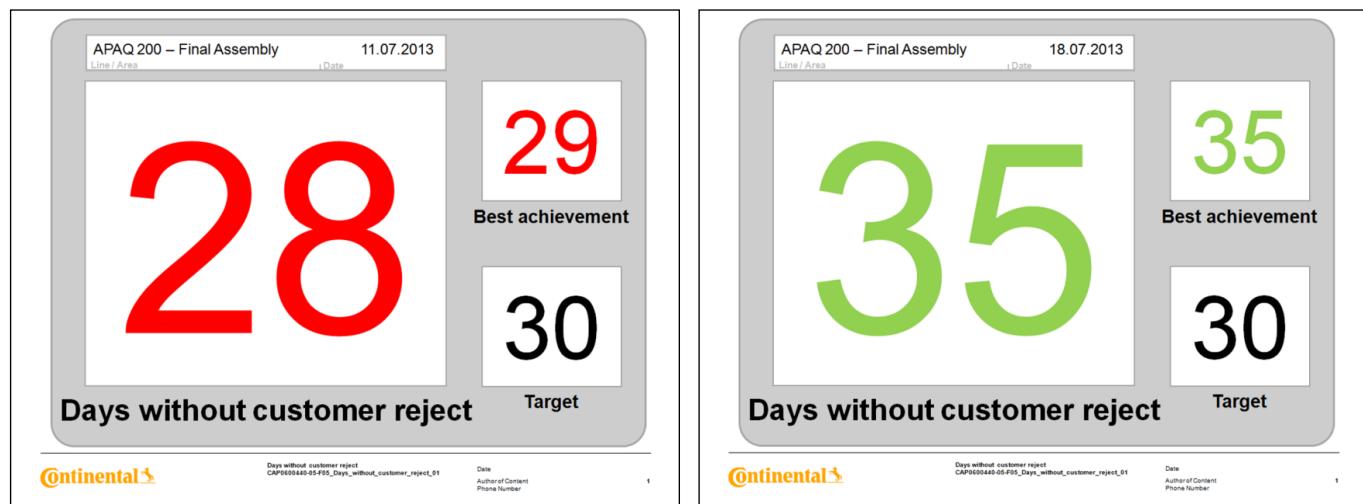
Best Achievement means the longest period of consecutive days without a customer 0km complaint that is achieved. It may be the same value as the actual one if the current period is longer than any other before.

The chart has to be updated daily. It is recommended to use a laminated chart, where you can enter the numbers with an erasable board marker. The colour of the figure in the field Target is black. The colour of the figures in the fields Days without customer reject and Best achievement depends on whether the target is achieved or not (if achieved, than green; if not achieved, than red).

You can find the template for this chart in the attachments.

If more than one line is adding value at the product, e.g. pre- and final assembly lines, the plant shall decide about a proper allocation of the reject to the lines. In case of doubt, the final assembly line shall be charged with the reject.

If the value add is created through an intercompany chain, the reject has to be shown at the location with the final value add. Normally, this is the delivering plant. If the cause for the reject is identified to be at a location "upstream" in the intercompany chain, the reject shall be "forwarded" and shall show up at the respective line in this location as well. A 0km reject coming from an internal receiving location, has to be counted at the sending location in the same way as an external customer reject.

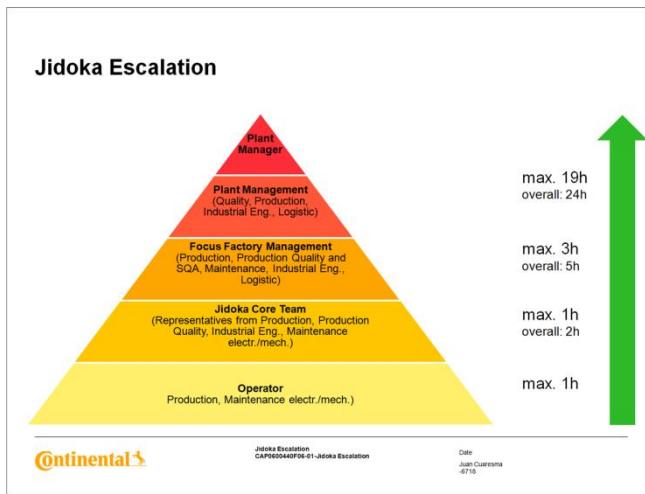


Chapter 3.5.3, Picture 1: Mandatory Template for "Days without customer reject" with exemplary data (left: target not yet reached, right: target achieved)

3.5.4 Jidoka Escalation (Mandatory)

The purpose of this information element is that the people at the line and support functions clearly understand how the escalation is defined for the line (may be the same for the whole area or the whole plant).

You can find information and example images for Jidoka Escalation and Jidoka Parts on the [Jidoka Sharepoint](#). The picture of a pyramid is a mandatory visualization at the production line, as it clearly displays the escalation hierarchy steps. The number of escalation hierarchy steps and which persons/functions to involve in which step are defined locally. There may be more or less steps than shown below according to the specifications of a local organization.



Chapter 3.5.4, Picture 1: Example for Jidoka Escalation

3.5.5 KPI: Production Output (Mandatory)

The Output compares the actual with the planned output of a line. The minimum scale is the shift. If the “Actual” figure achieves the “Plan” figure, it is displayed in **green**, otherwise in **red**.

Make sure that the date is visible. We recommend using the provided template chart (Chapter 3.5.4, Picture 1) for inserting the daily shift numbers. The easiest way is to write the numbers into the fields manually as indicated in the example below. This format provides a quick management overview of the achieved production results at each line.

Week 28	Line: Example Line 1						
Performance	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Early Shift	963	1000					
Late Shift	947	1000					
Night Shift	1000	1000					
Actual	2910	3000					
Plan	3000	3000					

CAP0600440-05-F08_Output_DIN_A2-01

Date / Author of Content / Phone Number

Chapter 3.5.5, Picture 1: Recommended Template Output Table – weekly overview

3.5.6 Action Plan (Mandatory)

The Action plan records measures, that can't be concluded directly but needs several days or weeks. Every line specific measure is recorded on the Action Plan, no matter what the origin is (Jidoka, Kaizen, LPA, etc.).

The Action Plan may be filled out manually or electronically (i.e. PC). We recommend using the template with minimum requirements attached to this procedure.

Minimum Requirements:

1. Reference Number
2. Issue
3. Actions
4. Responsible
5. Due Date
6. Status via PDCA circle (Plan, Do, Check, Act)



Ref. Nr.	Issue	Action	Responsible	Due Date	Status

Legend:

1. Plan (Problem identified and analyzed)	2. Do (Plan implemented)
3. Check (results of measure compared with expected results)	4. Act (Improved solution fully implemented)

Action Plan
CAP0600440-05-F04_Action_Plan_01
Date
Author of Content
Phone Number
1

Chapter 3.5.6, Picture 1: Recommended template for the Action Plan

3.5.7 Manufacturing Caused Customer Returns (Mandatory)

The Manufacturing Caused Customer Return chart shows a current/recent case of major customer returns which are clearly caused at the line. Manufacturing Caused Customer Returns refers primary to external cases, but internal cases can be included. One case should not exceed the time frame of four weeks being displayed.

The representation shall follow the 4 sections as shown in the recommended template below. It is recommended to use less words and more pictures.

Customer complaint information which is shown electronically to the operators when registering at the production line at the start of the shift may be used as additional information channel.

Manufacturing caused customer return

1. Problem Description (incl. Impact to customer) (Pictures as far as possible)	2. Rootcause(s) (Pictures as far as possible)
4. Learnings (Systemic items)	3 Solutions (corrective actions) (Pictures as far as possible)



KPI Key Performance Indicators
 Template
 CAP0600440-05-F11_Manufacturing_caused_customer_return-01 Date
 Author of Content
 Phone Number

Chapter 3.5.7, Picture 1: Recommended Template for the “Manufacturing Caused Customer Return” sheet

3.5.8 CBS Line Certification 2.0 (Mandatory for CEP Plants; optional for others)

The goal is to create awareness and visibility of the results of CBS-related optimization activities on line or area level (manufacturing & logistics).

The point of the Line Certification is - first to evaluate the maturity status of lean methods application, supported by the Continental Business System, - secondly to present the results of lean activities by showing the implementation status of lean methods - not only to colleagues and management on site but to all kinds of visitors, especially our customers.

Evaluation is following a general approach that is valid for all specified CBS methods:

- Bronze Level represents the Base Implementation according to related standards
- Silver Level represents Optimization and Continuous Improvement over time.
- Gold Level represents Sustainability and Best Practice documentation.

Evaluation is based on related standards as described within attachment F01 ‘Line Certification 2.0’

After approved evaluation, the certification shows the implementation status of CBS related methods at a line or area (group of lines). Point of visualization is the respective Line Information Board for the line or area, see chapter 3.5.



Chapter 3.5.8, Picture 1: CBS Line Certification 'Placeholder'

The certification focuses on the following set of five **CBS Methods** that people at the line or area can directly influence, based on their qualification, experience and know-how:

- **5S** as starting point for implementing an improvement culture
- **Visual Management** as method to have all information on the spot to answer the question 'How is the process running?' and to see deviations and the counter measures at a glance
- **Standard Work** to ensure reliable and efficient processes by following detailed descriptions for each process step
- **Jidoka** to stop a process as soon as irregularities in the process occur
- **Total Productive Maintenance** to involve operators to obtain best equipment performance

In case of need for additional CBS methods: If awareness and visibility of the results of **additional CBS-related optimization activities** is planned by a plant, the method(s) and the respective evaluation criteria need to be aligned together with central CEP CBS department.

Visualization of the maturity level:

For the visualization, a range of colour-coded stickers is used which represent the degree of implementation per CBS method after evaluation. These stickers get posted to the respective CBS method-placeholder at the Line Certification sheet and signed by the CBS Plant Coach.

The CBS Plant Coach is responsible to report the evaluation status centrally via a documentation template, see F01 Line Certification 2.0



Chapter 3.5.8, Picture 2: CBS Line Certification Sticker – Bronze, Silver, Gold

Since the status of the optimization activities gets evaluated by method, the Line Certification shows a valid and reliable implementation status at a glance. Additionally, this visibility induces a kind of positive competition amongst the various production lines or areas on the shop floor.

NOTE:

Detailed information regarding the related roles, responsibilities, evaluation criteria and process is available via attached documents to this [CAM0600440](#) (as one element of Continental Automotive Procedures and Methods):

F01 CBS Line Certification 2.0**Templates for Line Certification Sheets and Stickers**

Physically, the Line Certification Sheets and Stickers can be ordered [online](#) at the department Central Electronic Plants Continental Business System, CEP CBS, located in Regensburg, Germany:

[Here is the link to the order form.](#)

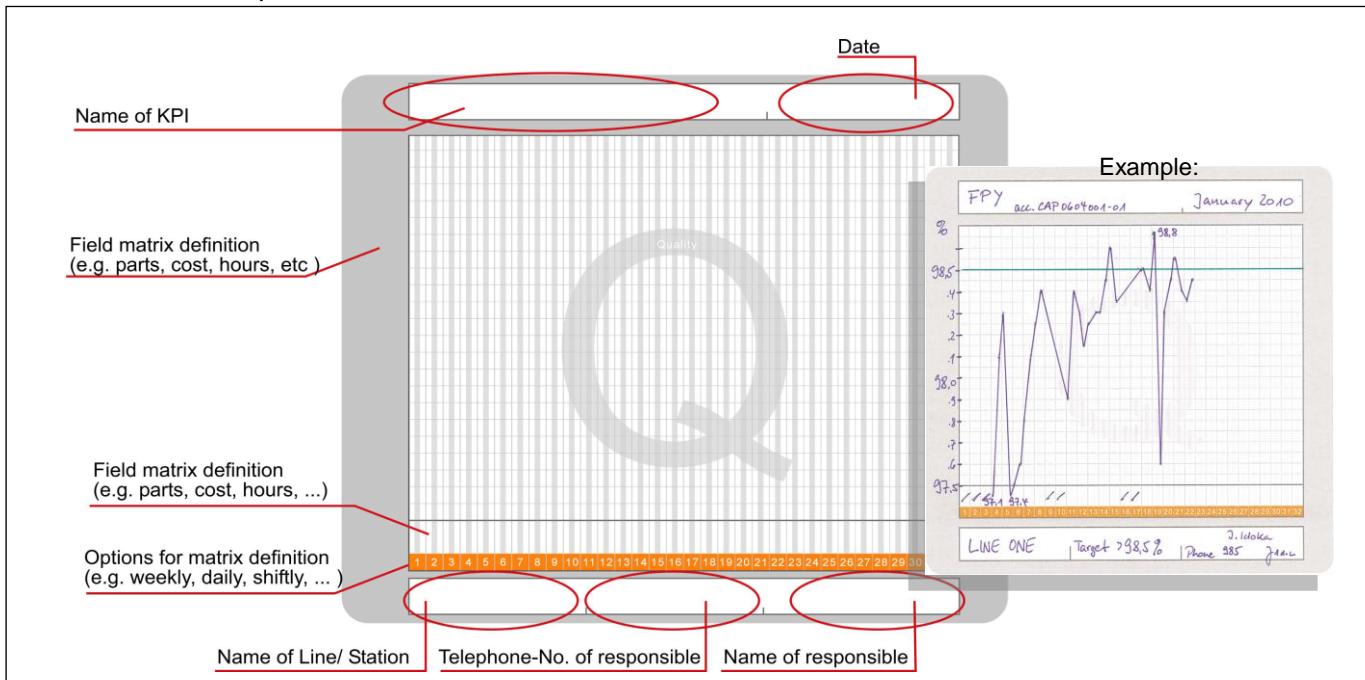
3.5.9 Optional KPIs (Key Performance Indicators)

Further KPI Charts may be added if relevant for the workers involvement.

Key Performance Indicators are collected in a continuous manner. It is strongly recommended to write down the collected KPI data manually to the standard templates in order to have increased awareness and more intensive knowledge of the respective KPIs and their impact. The KPIs should be collected and immediately displayed in a timely manner, e.g. hourly, per shift or daily. The selection of KPIs should reflect the Plant Scorecard KPIs to ensure a bottom up target achievement. They are shown on the KPI-Trend-Charts. Examples are:

- | | |
|------------------------|---|
| • Quality | 0-km ppm, First Pass Yield (FPY), NCC 1 (Scrap Rate) |
| • Delivery Performance | WIP |
| • Productivity | Overall Equipment Efficiency (OEE / Availability / Performance rate), Labour productivity (Reduction of Standard Times) |
| • Process Capability | Process confirmation / Standard Leader Work |

Recommended template:



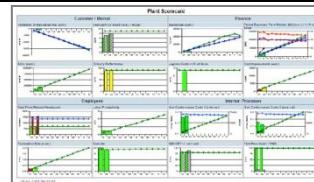
Chapter 3.5.9, Picture 1: KPI-Trend-Chart template (Data needs to be inserted manually)

Templates for Trend-Charts

Templates for the KPI-Trend-Charts are available digitally as pdf-file at the CBS homepage within the intranet C-inside. (Link is listed in the Implementation Guide attached to this procedure)

KPIs reflecting the CEP Plant Scorecard

[Plant Performance Review, CAP0600198](#)



3.5.9.1 Scrap

The Scrap chart on the line is an instrument used to represent the scrap produced. Because of the daily update of the chart, it is recommended to use a handwritten chart.



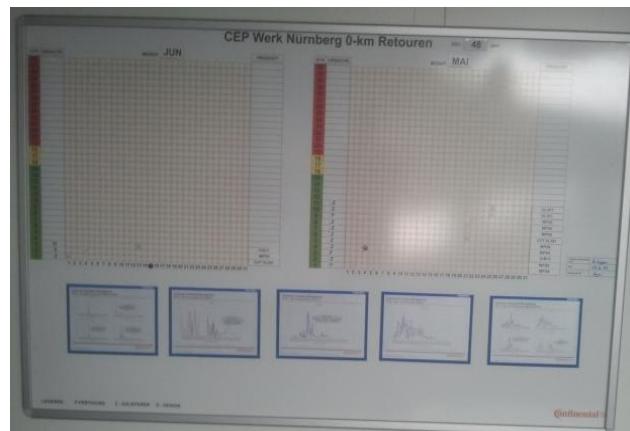
Chapter 3.5.9.1, Picture 1: Example for a handwritten chart

3.5.9.2 0km ppm

For the 0km ppm chart on the line the location determines whether the figures are recorded on a monthly basis or are updated daily. For the daily illustration it is recommended to use a handwritten chart.



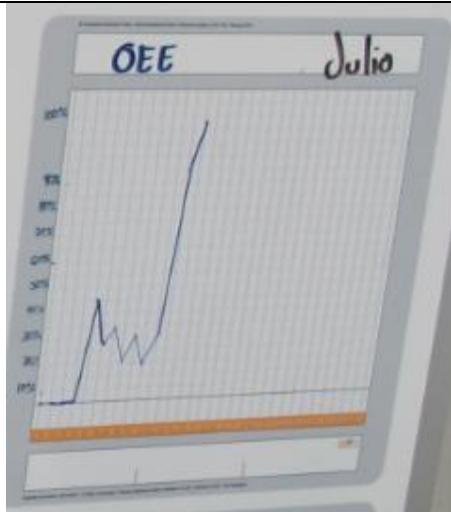
Chapter 3.5.9.2, Picture 1: Example for a handwritten chart



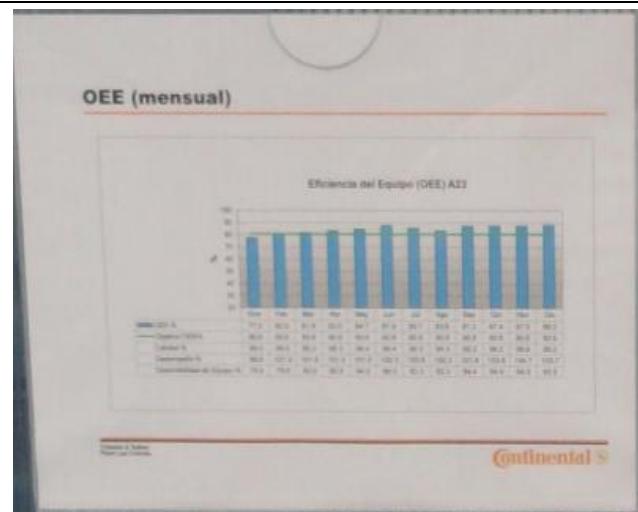
Chapter 3.5.9.2, Picture 2: Example for a handwritten chart

3.5.9.3 OEE

For the OEE chart on the line the location determines, whether the figures are recorded on a monthly basis or are updated daily. For the daily illustration it is recommended to use a handwritten chart.



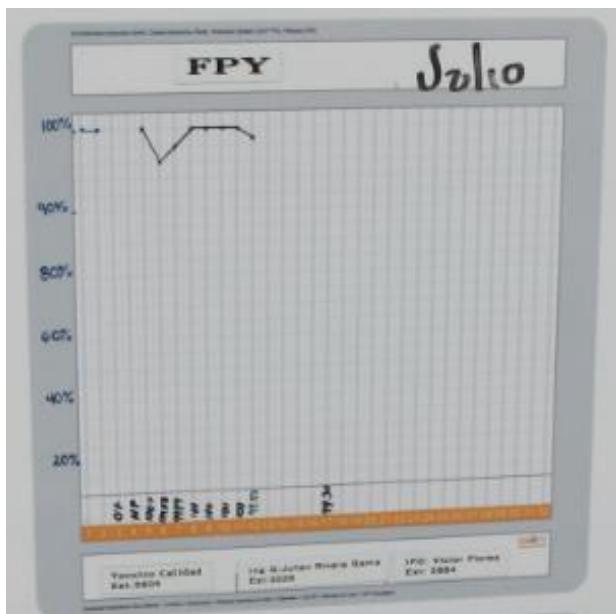
Chapter 3.5.9.3, Picture 1: Example for a handwritten chart



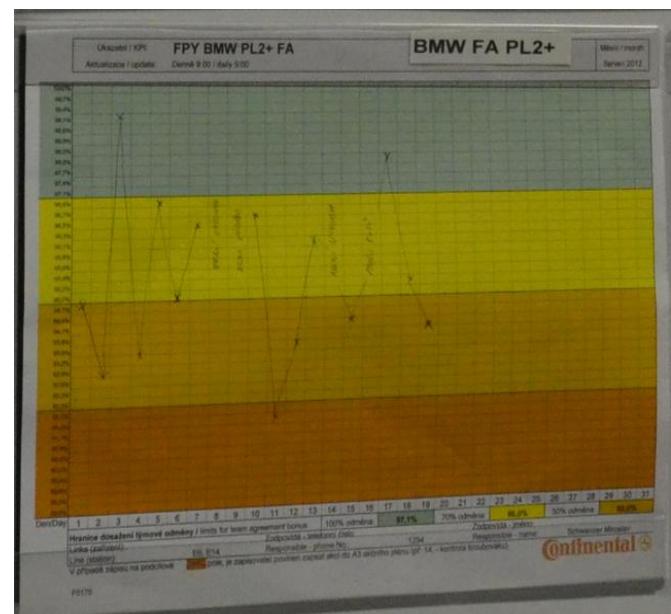
Chapter 3.5.9.3, Picture 2: Example for a printed chart

3.5.9.4 FPY

For the FPY chart on the line the location determines, whether the figures are recorded on a monthly basis or are updated daily. For the daily illustration, it is recommended to use a handwritten chart.



Chapter 3.5.9.4, Picture 1: Example for a handwritten chart



Chapter 3.5.9.4, Picture 2: Example for a handwritten chart

3.5.10 Standard Operation Sheet (Optional)

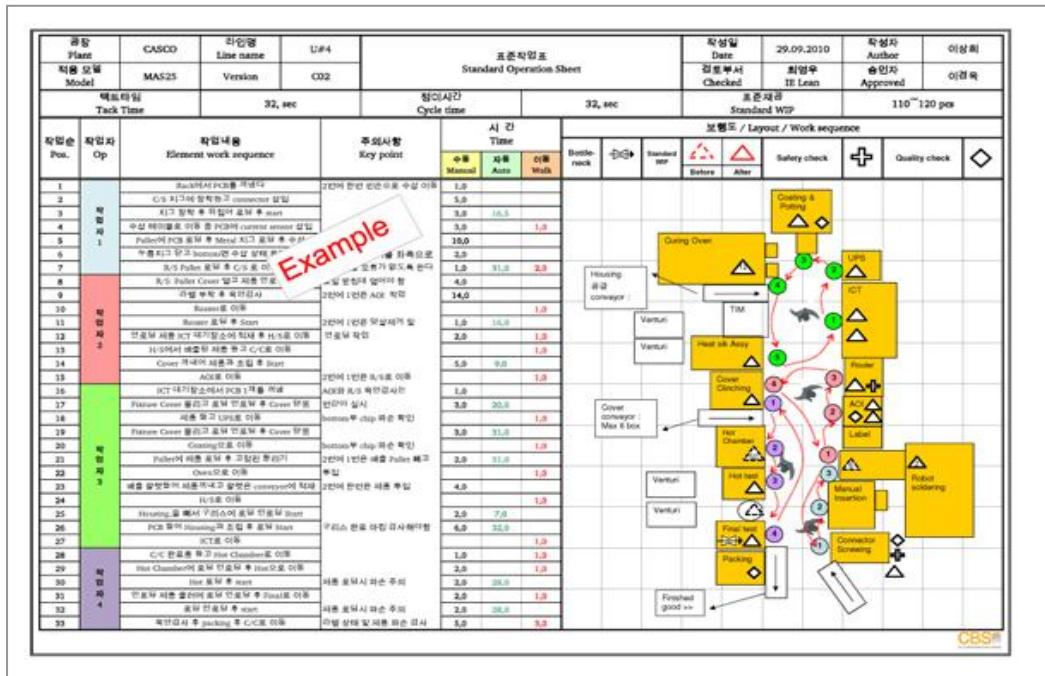
A Line Layout illustrates the applied processes and the position of equipment and machines at the production line or section according to the process identification plates (see 4.1.1).

Depending on the complexity of the production unit or logistics area several Standard Operation Sheets (SOS) should be in place at the work stations.

Three elements of standard work are clearly shown:

- Tact time,
- Work sequence,
- Standard Work in Process SWIP.

It is a visual control and tool for improvement that can be used during process confirmation, which is known as 'Layered Process Audit' LPA.



Chapter 3.5.10, Picture 1: Stylized Line Layout including legend, example

For further information see also the Procedure regarding [Standard Work](#) CAM0600929-01.

3.5.11 Layered Process Audit (Optional)

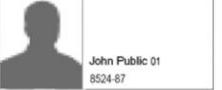
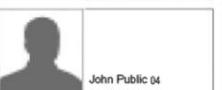
The way the Layered Process Audit illustrated is determined by the location.

3.5.12 Line Staffing / Team Information (Optional)

This information provides clear identification for all team members that are in charge and working currently on the line or section.

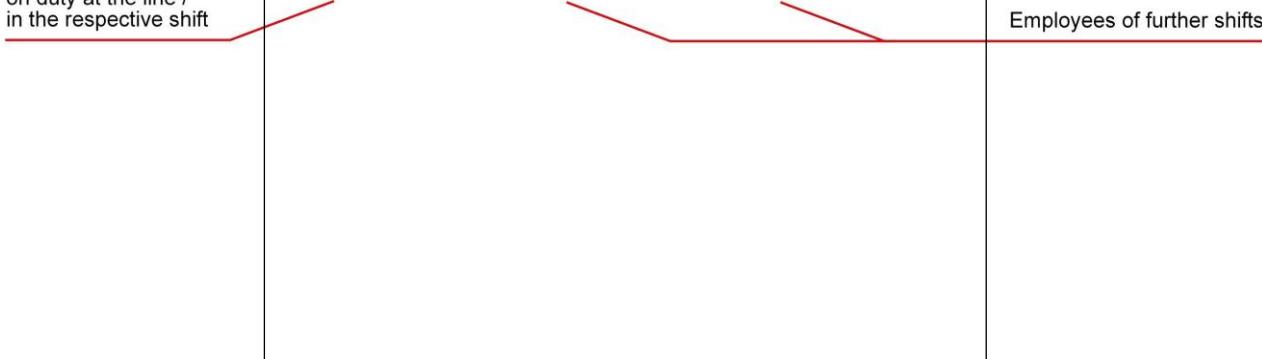
It is recommended to use material for the name tags which is easy to stick and to remove (e.g. magnetic tags)

Differences between functions can be represented by a specific arrangement or color of the name tags. Local legal restrictions for the usage of photos of employees and other information must be considered.

Shift 1 Shift Leader	Shift 2 Shift Leader	Shift 3 Shift Leader
 Joane Doe 01 8524-45	 John Public 01 8524-87	 Joane Doe 05 8524-92
Operator	Operator	Operator
 Joane Doe 02 8524-17	 John Public 02 8524-48	 John Public 05 8524-08
 Joane Doe 03 8524-85	 John Public 03 8524-21	 Joane Doe 06 8524-22
 Joane Doe 04 8524-26	 John Public 04 8524-02	 Joane Doe 07 8524-30

Employees currently on duty at the line / in the respective shift

Employees of further shifts



Chapter 3.5.12, Picture 1: Name tags of line staff, fitting to DIN A 4 format, example

An enhancement of the usage of this information may be through employees needing to go physically to the Line Information Board and stick their name tag to the board at the beginning of a shift, and removing it at the end of the shift. Doing this e.g. after the '5 minutes' or 'Start up' meeting, they see the current status of the KPIs and all other relevant information especially the important announcements. These tags must have a fixed area at the Line Information Board which must be defined throughout the shop floor as a standard.

3.5.13 Qualification / Skill Matrix (Optional)

The qualification or skill matrix provides an overview about all operators and their technical and professional skills. In addition it must be ensured that employees are able to master and apply efficient creativity and problem-solving techniques. The content of the qualification matrix must be kept updated regularly and should consist of

- a)** General data (author, date of issue, supervisor signature, line / workstation name, technology (e.g. SMT))
- b)** Skill data with level of skills (name, personal No., workplace (e.g. laser marking, stencil cleaning, spec. SAP dialogue) and date of the training

The know-how level of the operators gets described by figures 1, 2, 3, 4 see explanation in the following table:

Level	Description
1	Works under supervision (in training)
2	Applies / practices (passes a theoretical & practical test)
3	Applies / practices and does other specific activities (participates to autonomous maintenance)
4	Coaching others

Chapter 3.5.13, Picture 1: Definition of Skill Level

Chapter 3.5.13, Picture 1: Example of a Skill Matrix

Local legal regulations are to be considered in specific countries, where information about the operators' skills should not be published.

4 Further Elements of Visual Management

The elements in this chapter 4 are mandatory for CEP locations and recommended for other locations when applicable.

4.1 General Visual Tools

These tools are for quick overviews on line level. They provide direction in regards to each specific line with an overview on the line's key information and its position within the company's Supply Chain.

4.1.1 Identification Plates / Signs for Lines and Logistics Areas

To ensure a quick overview, identification plates that identify the production line or logistic sections should be suspended above the line/section. Company-wide known abbreviations that are not commonly known to the public should be avoided.

It is recommended to place the identification plates above the first station of each line. Frontend and backend lines need to be named separately.

- Labeling on both sides of the plate
- The text has to be in the local language and in English.
- Text font is "Stag Sans" or as an alternate 'Arial'
- The size of the nameplate depends on local requirements
- Text style according to the corporate identity regulation.
- Use only one format and font style for plates and signs within the whole plant



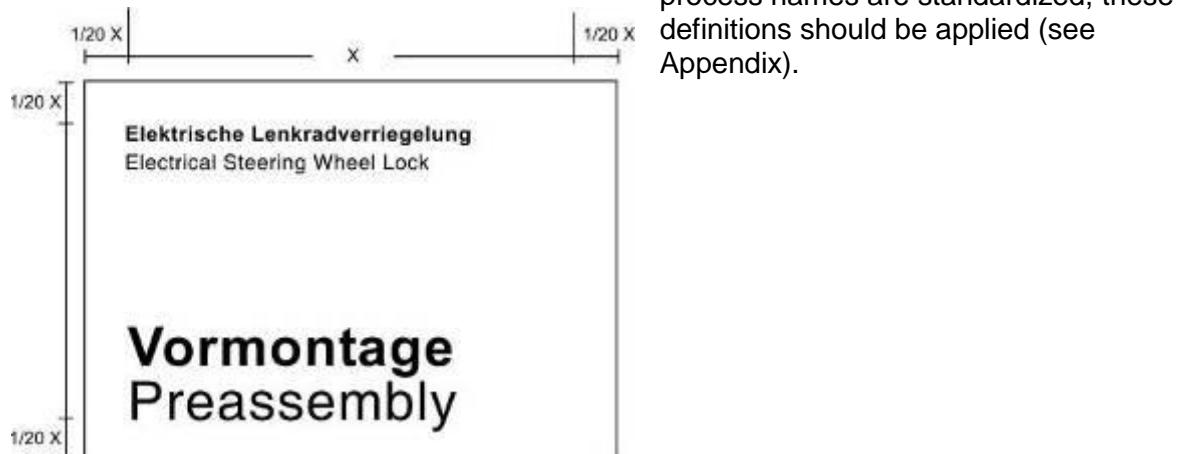
Chapter 4.1.1, Picture 1: Example of a Line Plate

4.1.2 Process Identification Plates / Signs

For important processes of the line or logistics functions, a process identification sign should be available.

The text has to be in the local language and in English

- Nameplates for processes have landscape layout and are significantly smaller than line identification sign, e.g. ISO/DIN A3 (uniform format throughout shop floor)
- The process identification plates are always white with black text.
The content is the name of the process, not the name of the equipment. As far as process names are standardized, these definitions should be applied (see Appendix).



Chapter 4.1.2, Picture 1: Example Process identification plates

Process Identification Plates assure easy understanding about the applied processes. The uniform look & feel of the plates throughout the plant generates a common, standardized appearance of the shop floor.

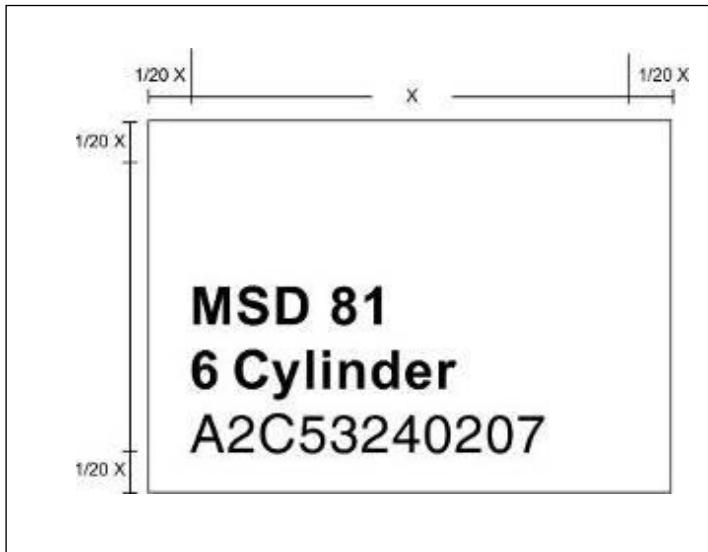
Standard Process Names:

Complete list of standard process names will be available via Manufacturing Execution System (MES). Some basics of the standards are:

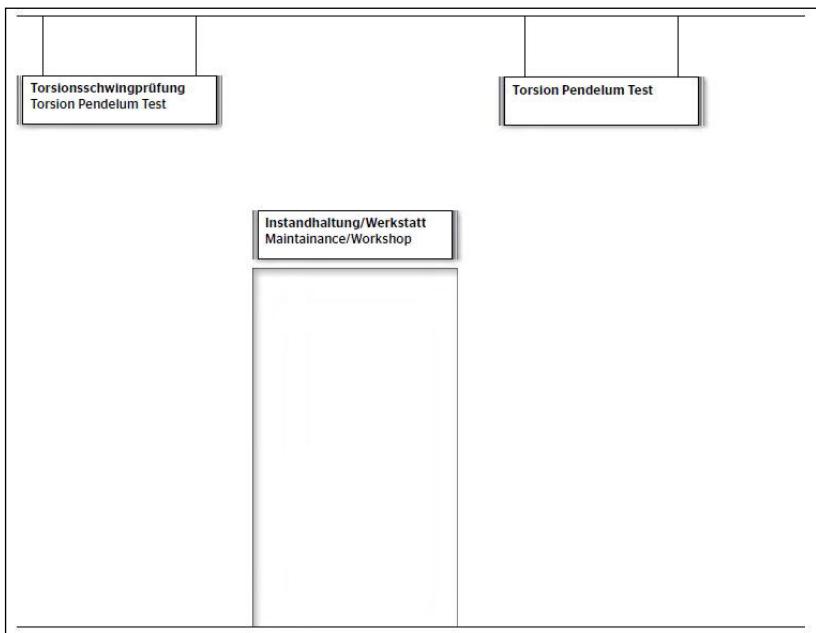
Handling	Machine Soldering
PCB Cleaning	Press Fit
Solder Paste Printing	Press In
Solder Paste Inspection	Screw Driving
SMD Placement	Coating
Bare Die Placement	Dispensing
THD Insertion	Visual Inspection
Reflow Soldering	Curing
Automated Optical Inspection (AOI) incl. verification	Welding
Automated X-ray Inspection (AXI) incl. verification	Riveting
Marking	Wire Bonding
De-panelling	Flying Probe
In Circuit Test (ICT)	Functional Test
Programming	

4.1.3 Area Identification Plates / Signs

For plates other than line or process identification plates use, the following format:



Chapter 4.1.3, Picture 1: Area identification plates



Chapter 4.1.3, Picture 2: Example of Line Plates / Plates according to Continental Corporate Design –Signage

Area Identification Plates assure easy orientation regarding designation of production and logistics areas. The uniform look & feel of the plates throughout the plant generates a common, standardized appearance of the shop floor.

4.1.4 Ceiling / Floor / Walls

Reference for this is the Continental Corporate Design Guideline - **Basic Elements / Color System** and **Visual Management** for Brand Spaces.

4.1.5 Manufacturing Floor Visual Indicators

In production and logistics areas, traffic areas and designated spaces should be marked by different colours depending on their function. This helps employees familiarize themselves in plants as well as helping to maintain order and boost safety.

To have one common appearance throughout the shop floor of all our plants, the standard shows continuous outlines only. With this we set the limits visually – meaning: no dotted line, etc.

Every element of the production floor needs to be marked in its home location and should always be found there. To help with the identification of a kind of item, in addition to the colours, small textboxes can be used. The text boxes must be fixed so that they are resistant and durable (e.g. fixed with see through adhesive tape).

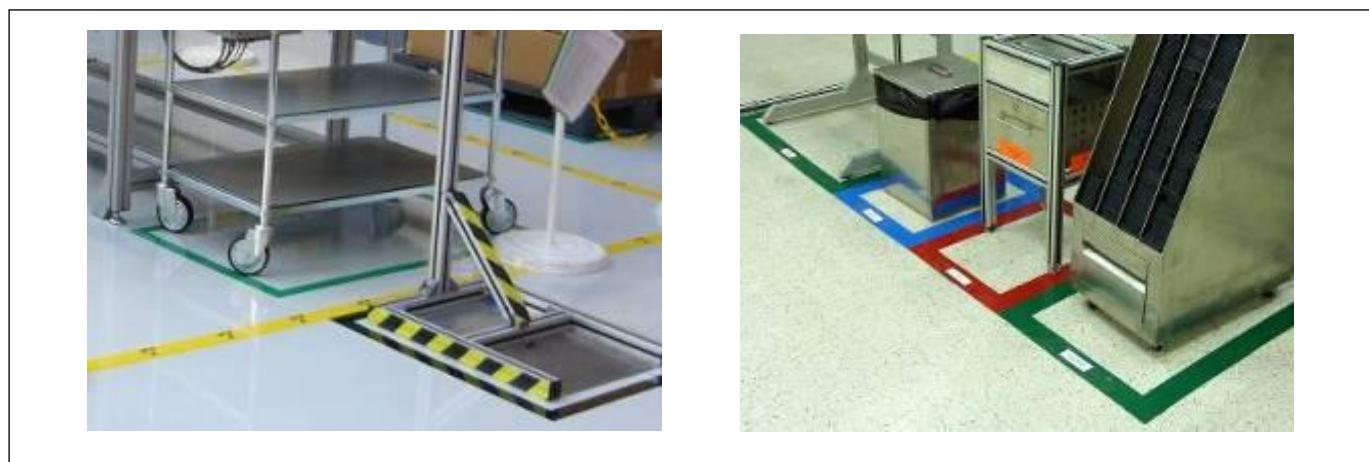
In electronics plants all applied markings must be ESD protected. As standard, all floor markings have a width of 50 mm minimum.

In countries where legal regulations for floor markings are in place, please apply the local rules.

Description	Area Marking Color	Recommended Color Code*
Main and subsidiary routes		RAL 1023 (traffic yellow) CMYK 0 10 90 0
ESD area (electronics production): With ESD symbol		RAL 1023 with ESD symbol CMYK 0 10 90 0
Lead free floor marking for dedicated equipment only (optional)		RAL 6024 (traffic green) CMYK 90 10 80 10 on white background
Designated spaces for materials (supply, collection), storage area for good products, essential product items		RAL 6024 (traffic green) CMYK 90 10 80 10
Waste containers (residual waste, empty cartridges, litter)		RAL 5017 (traffic blue) CMYK 100 20 5 40
Danger zones		RAL 1023 / RAL 9017(yellow / black) CMYK 0 10 90 0 / CMYK 100 90 100 95
Analysis area, area for faulty parts / rejects, discrepant material		RAL 3020 (traffic red) CMYK 0 100 100 10
Other designated spaces Empty magazines, boxes, customer packaging, etc. (no waste)		RAL 9017 (traffic black) CMYK 100 90 100 95

* Basic colors

Chapter 4.1.5, Picture 1: Standard Manufacturing Floor Markings



Chapter 4.1.5, Picture 2: Standard Manufacturing Floor Marking

4.1.6 Andon

Andon is a manufacturing term referring to a system that notifies management, maintenance, and other staff of a quality or process problem.

4.1.6.1 Andon Board

Andon is a signboard used as visual management tool. It's incorporating signal lights to indicate which workstation has a problem. It highlights the status of operations of production lines at a single glance. In case of deviations in the line it alerts staff and management by immediate visualization of problems or something abnormal using a defined color-code. The alert can be activated manually by a system and may include a means to stop production (Jidoka) so that the issue can be corrected.

The Andon staff and management are able to identify the problems immediately and take measures against them quickly. For this, Andon provides real time information, delivered by Manufacturing Execution System, MES.

As a pre-requisite for manual alert, a catalogue of root causes must be defined and available. Operators must be trained accordingly so they know exactly when and how to make input. A defined process on how to react to information given by Andon (24h) must be in place as well.

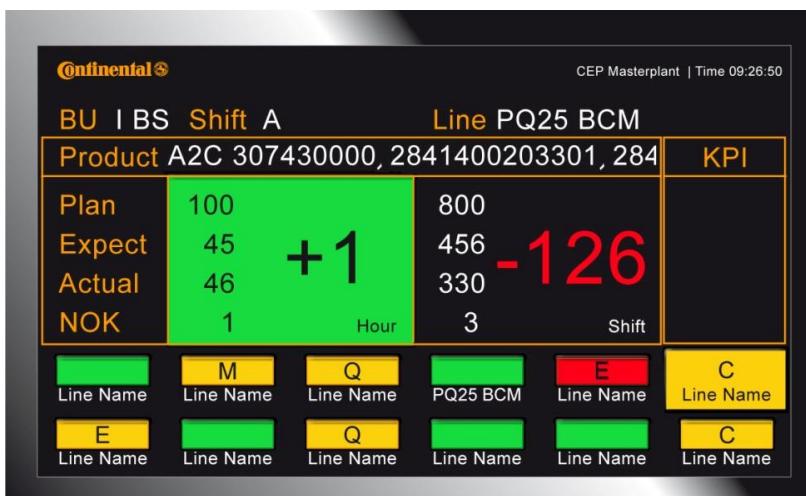
Realistic target setting based on standard work must be entered (Note: begin implementation by manual input – do not wait for MES). This target setting must respect planned breaks, changeovers, etc.

Analysis (e.g. of downtimes) or **displaying of data history** is not part of the Andon Board concept!

Content and rules for display

Data regarding line output – target vs. actual, by hour and by shift – is the core information given by Andon Board. It is displayed in an easy-to-catch manner for operators and management. The status information is given by a standard color code.

Overview information can be made available for multiple lines – targeting management. Stations' status information is available for single lines – targeting operators specifically. In addition to the KPI 'Output', other KPIs such as 'Downtime', 'FPY', etc. can be displayed as an option.



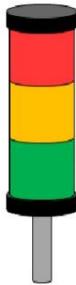
Chapter 4.1.6.1, Picture 1: Standard Andon Board



Detailed specification of Andon Board display itself, see attachment F02 of this guideline.

4.1.6.2 Andon Lights

'Andon Lights' is a visual tool to alert the supervisors to shopfloor issues (JIDOKA). It supports the supervisors and operators in keeping a close and steady watch on the shop floor to assure that all processes run fine. When an abnormality occurs at a certain process, the lights alert the supervisors and staff immediately of the problem.



Andon lights are defined with a triple color-code of Red, Yellow, Green.

The sequence is defined from top-down as following:

Top-light : Red

Center-light: Yellow

Bottom-light: Green

Having the position of Andon Lights at one specific height throughout the shop floor supports the idea of getting maximum information at a single glance. When entering the area one can see everything with a turn of the head.

In general, the meaning of Andon Lights reflects the common understanding related to 'traffic lights'.

4.1.7 Work Clothing

When it comes to work clothing for employees in production and logistics areas, standardization is a key consideration. Here, Corporate Identity and ESD protection are indivisible parts of the approach.

Defined here is a functional, attractive and cost effective design - observing comfort as well as operational costs like washing, logistic etc. as well.

A key element of the smocks is to assure ESD protection. ESD protection is required in all electronic manufacturing areas, as well as in dedicated engineering and test laboratories.

Within CEP electronic plants ESD garment is described as follows.

Clean rooms (for bonding etc.) may require enhanced clothing.

It is **mandatory to wear ESD Smock and ESD Shoes** at any time (to wear only in building, not outside!)

For quality, safety and legal reasons the **option to use** ESD Gloves, thimbles, hair net, safety glasses, ground strap, shoe cover or stripes (in case of no ESD shoes) may be required.

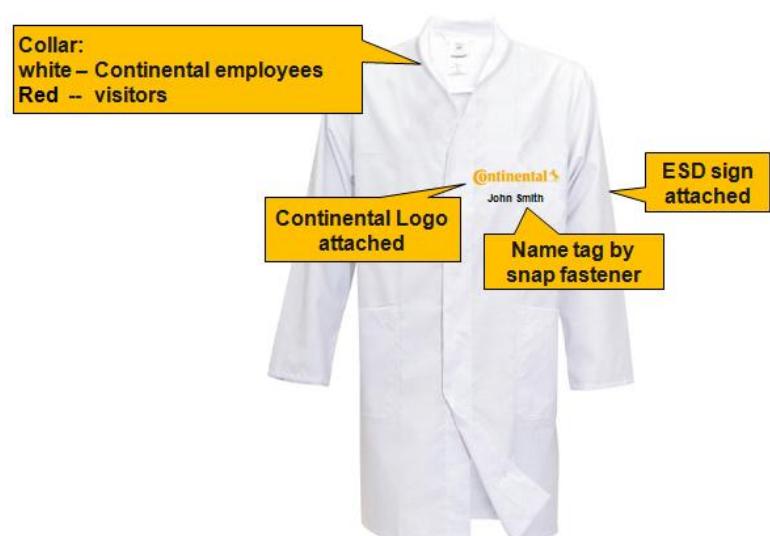
General paradigms for smocks must be considered as following:

A limited number of smock-variants will save handling / logistic costs.

Name tags shall be held by all operators. They shall be fastened by snap fasteners for easy handling.

To assure life cycle detection, every smock shall be identified by unique barcode. With this, we are able to count number of washing cycles and e.g. idle time in the offices, and distribution within the location.

Due to long term protection the use of carbon fiber is mandatory as metallic fiber may break and limit ESD protection.



Smocks for Visitors / external employees

Same requirements as ESD smocks will apply, base color is white.
Red collar separates between Continental internal and external
(visitors/staff).



Smocks for Maintenance

Same requirements as ESD smocks will apply, base color is grey.
Red collar separates between Continental and external employees.

For all detailed specifications, see 'CEP ESD garment guideline' as attachment to this VM Procedure.

For Central Electronic Plants, ESD / safety footwear is required at the shopfloor.

All labels follow the 'Corporate Design Policy', chapter 1 and 18.2 (Link is listed in the Implementation Guide that is attached to this procedure)

4.1.8 Leader Standard Work

Having standardized work is not enough; it is only the start of control. If continued conformance to standards has to be ensured, the processes must be reviewed regularly.

Leader Standard Work (LSW) is the method of choice for this. It moves the management focus from results only – to results and process improvement. This results in a more stable organization, less fire fighting, less waste, higher customer satisfaction and improved shareholder value.

Before implementation of LSW, it is required to have key processes identified, stabilized, standardized and also visualized. As soon as this pre-requisites are in place, implementation of LSW can follow. Key elements of LSW are 'Accountability, Communication and Problem Solving', 'Regular Standard Work and Review', 'Layered Process Audits' and 'Gemba Walks'.

This set of elements provides the key for sustaining and continuously improving our processes.

Example for Leader Standard Work are:

<u>Daily Standard Work(SW) Reminder Team Leader</u>	
Line: _____	Date: _____
Team Leader: _____	Shift: _____
Team Leader Daily Standard Work	Action required
Supervisor, Team Leader meeting: Participate in Supervisor - Team Leader start-up meeting. 5 to 15 minutes	-..... -..... -..... -.....
Team Member Punctuality	-.....
Productivity and SW: -Are targets being met? -What interruptions to flow have been identified? -Is Standard Work being followed? (Compliance to SW) -Is 5s meeting expectations?	-..... -..... -..... -.....
Work standards: -Is there a need to revise any of the work standards?	-..... -.....
Training: -Do all team members have the required training? -Is there new training required for team members?	-..... -.....
Next day planning: -Start the preparation of the "Start-up Check Sheet" for next day	
Perform the following at specified intervals	
TPM activities: -Do I have all material required for the TPM activities? -Are the support people required for TPM activities available?	-..... -.....
Lead continuous improvement meeting with team: -What can be done differently to improve our process? What problem solving tools can be used to solve this issue? -Is outside expertise needed to help with this issue?	-..... -..... -.....

For further information see also training material 'Leader Standard Work'. The Link is listed in the Implementation Guide that is attached to this procedure.

4.1.9 Visualization of 'Standardization of Manufacturing Technologies'

To have the progress and implementation status of standardization of Manufacturing Technologies represented in one common, standardized way, a defined visualization approach is part of this CAM0600440 and its attachment F03.

Based on Continental Standards, CEP Manufacturing Technologies provides 'Implementation Checklists' for process related standards. These checklists are used to evaluate the fulfilment of process specification on equipment level.

It is mandatory that as soon as the evaluated equipment fulfils process specification requirements by ≥ 90%, the Certification Sticker needs to get put on the equipment.

Related functions:

- Local Industrial Engineering for evaluation of degree of fulfilment
- Plant Quality / CEP Quality for awarding the certification sticker physically to the equipment



Chapter 4.1.10, Picture 1: Certification Sticker for 'Visualization of Standardization of Manufacturing Technologies'

To get Certification Stickers for visualization of Standardization of Manufacturing Technologies:

Physical Certification Stickers can be ordered online at the department Central Electronic Plants Continental Business System, CEP CBS, located in Regensburg, Germany:

The link is listed in the Implementation Guide that is attached to this procedure.

5 Implementation

The implementation shall be complete by Year End 2014.

The design related standards should be developed during phases of renovation, expansion, reconstruction or rebranding if possible.

Specific implementation rule for CEP locations:

The implementation of an Andon Board standard (see chapter 4.1.6) goes along with the roll-out schedule of the worldwide Manufacturing Execution System, MES.

6 Metrics and Performance Indicators

The metric to measure the effectiveness of this procedure is the Implementation Status per Item

7 Further Definitions

Standard Paper Size

ISO 216 Standard	Size (mm)
DIN A 7	74 x 105
DIN A 6	105 x 148
DIN A 5	148 x 210
DIN A 4	210 x 297
DIN A 3	297 x 420
DIN A 2	420 x 594
DIN A 1	594 x 841
DIN A 0	841 x 1189

8 References

Mandatory References Automotive

Attachments to this document:

F01 Line Certification

F02 Andon Board Standard

F03 Visualization of Standardization of Manufacturing Technologies

F04 Action Plan (*recommended template chart*)

F05 Days without customer reject (*mandatory template chart*)

F06 Jidoka Escalation (*mandatory template chart*)

F07 Mandatory KPI Templates (*mandatory template charts*)

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- F08 Output (*recommended template chart*)
 - F09 Product card DIN A5 (*mandatory template chart*)
 - F10 Product card DIN A6 (*mandatory template chart*)
 - F11 Product card DIN A7 (*mandatory template chart*)
 - F12 Manufacturing caused customer return (*recommended template chart*)
 - F13 Continental Vision Text – Translations (17 languages)
 - F14 Implementation and Orientation Guide

[Manufacturing Related Key Figures, CAP0604001 - Automotive](#)

[Development, Adaption and Launching of Production Technologies;
Equipment Procurement, CAP0603076 - Automotive](#)

[ESD Procedure, CAP1012001,
especially chapters 'Access Control Station' and 'Marking' – Automotive](#)

[Jidoka – Automotive](#)

Corporate Design Guideline: 06 Visual Management, 08. Corporate Apparel, 10 Signage
(Link is listed in the Implementation Guide that is attached to this procedure)

Mandatory References for CEP

CN 20051-00 Cleanliness and Environmental conditions for Production shop floor

[Standard Work CAM0600929-01 – CEP](#)

[Process related CN Implementation Checklists](#), valid for Central Electronic Plants

Other

[CA.PS Self Assessment, CAP0600303 - CEP](#)

[Plant Performance Review, CAP0600198 - CEP](#)

[Lead Free Visualization – CEP](#)

Note: Not all referenced documents may be fully aligned with this procedure, but shall be with the next revision of the QMS on July 1st, 2014. In case of contradictions, this procedure is the binding one.

9 Document History			
Rev. #	Change Description	Process Owner	Date (dd.mm.yyyy)
01	Integration, replacement of: CAS Visual Tools GL 10-2007 Draft , SV Visual Management V2.0 6-2006	Henner Cnyrim	05.03.2010
02	Enclosure of 'CA.PS Evaluation' and 'Visualization of Standardization of Manufacturing Technologies'	Henner Cnyrim	05.09.2010

03	Enclosure / Update of Employee and Visitor Smocks, Andon Lights, Standard Color Concept, Standard Operation Sheet	Henner Cnyrim	15.01.2012
04	Enclosure of Andon Board Standard, Andon Lights, Line Certification 2.0,	Henner Cnyrim	08.04.2013
05	Elevation on Automotive Level. Enclosure of general information elements: Entrance area and Central Information Boards. Update of Line Information Boards.	Henner Cnyrim Dr. Andreas Dreyer	15.11.2013

10 Process Team

The members of the process team have examined this procedure. Their comments were considered and incorporated where applicable. The owner keeps records of their comments

Members of the Process Team:

Henner Cnyrim, Regensburg, Germany, CEP
Juan Cuaresma, Frankfurt, Corporate Quality, QT
Lacramioara Daraban, Regensburg, CEP HR
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