

NI Days

GRAPHICAL SYSTEM DESIGN CONFERENCE

Professional Development Conference
for Engineers, Scientists and Educators

NI Days 2014 (CH)

Dimensional and aesthetic quality control of an automotive part with QMT Vision Inspector (QVI)

Partnership between Qualimatest and Baud industries

Speakers: Axel Trouiller (Qualimatest) and Julien Lafenêtre (Baud industries)

March, 5th 2014

Agenda

- Introduction
 - Qualimatest
 - Baud Industries
- Requirements
 - Focus on part and process
 - Critical points
 - Technical and industrialization constraints
- Presentation of the solution
 - QVI platform
 - Vision layout definition
 - Solution set up in its environment
 - Planning
- Conclusion

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Introduction

QUALIMATEST SA

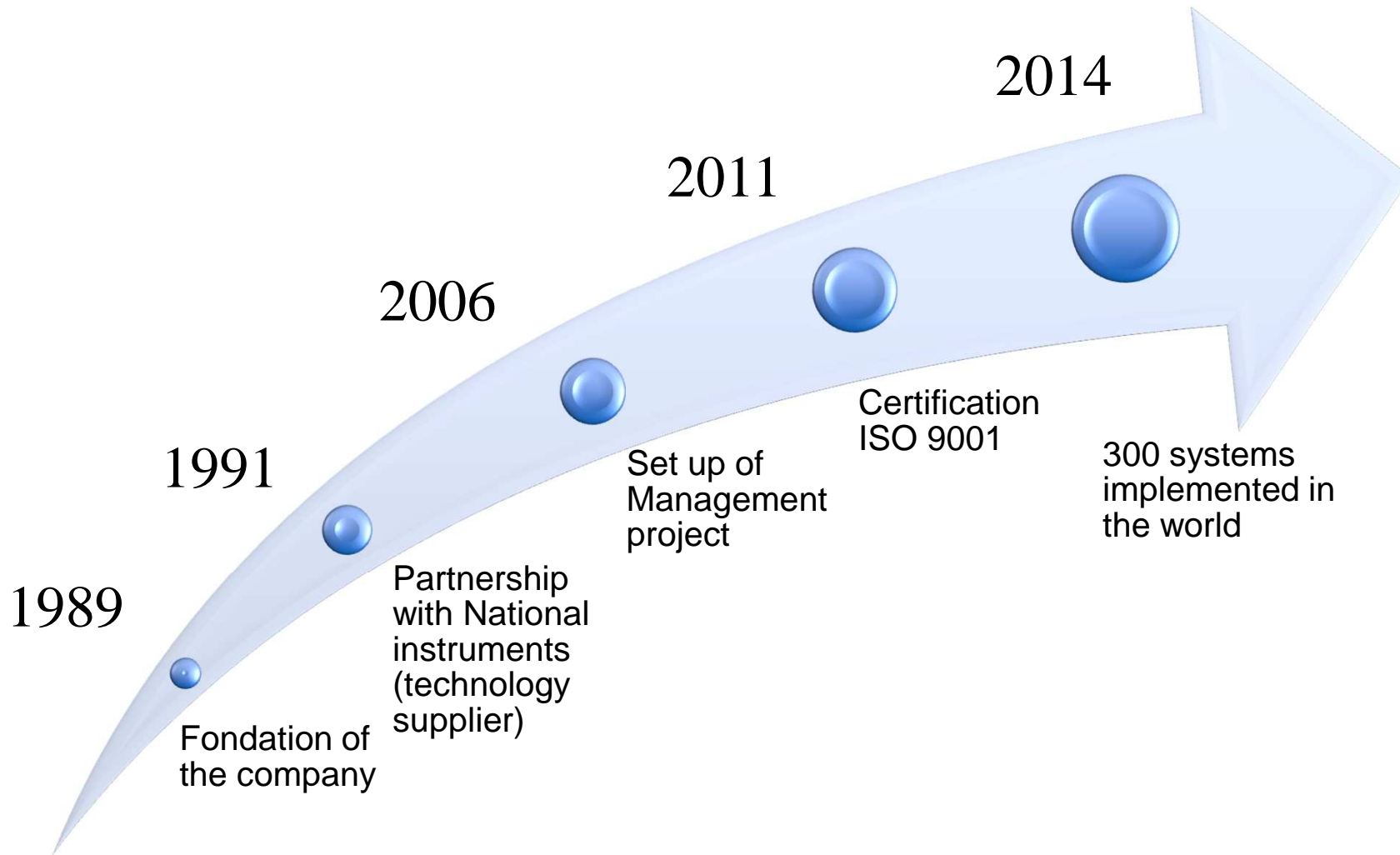
Profile of the Company

A global vision
Qualimatest is a Swiss company leader in the realization of systems in vision and automation.



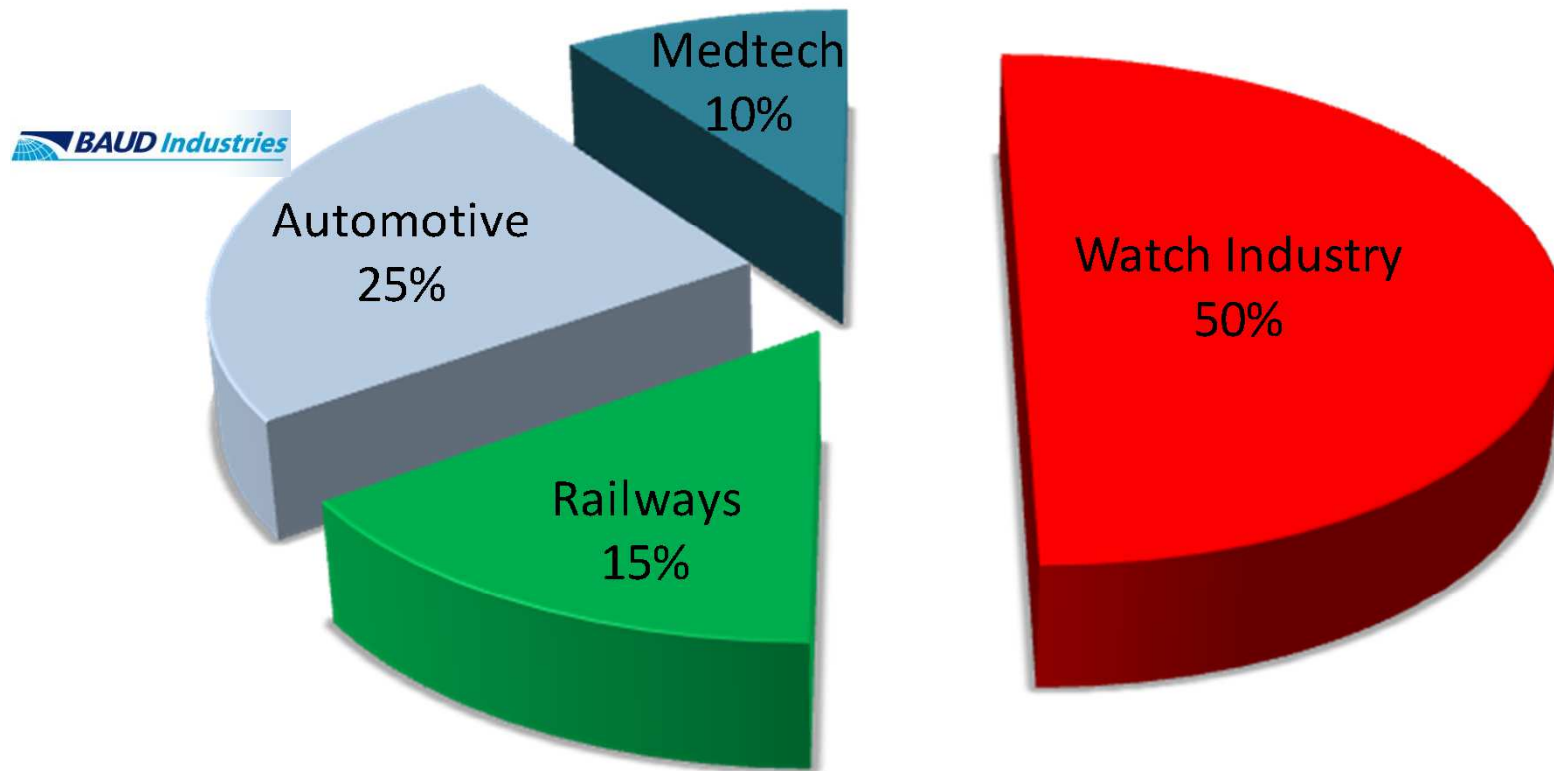
Qualimatest

More than 25 years serving their clients



Qualimatest

Diversified customers base on 4 main markets



Qualimatest

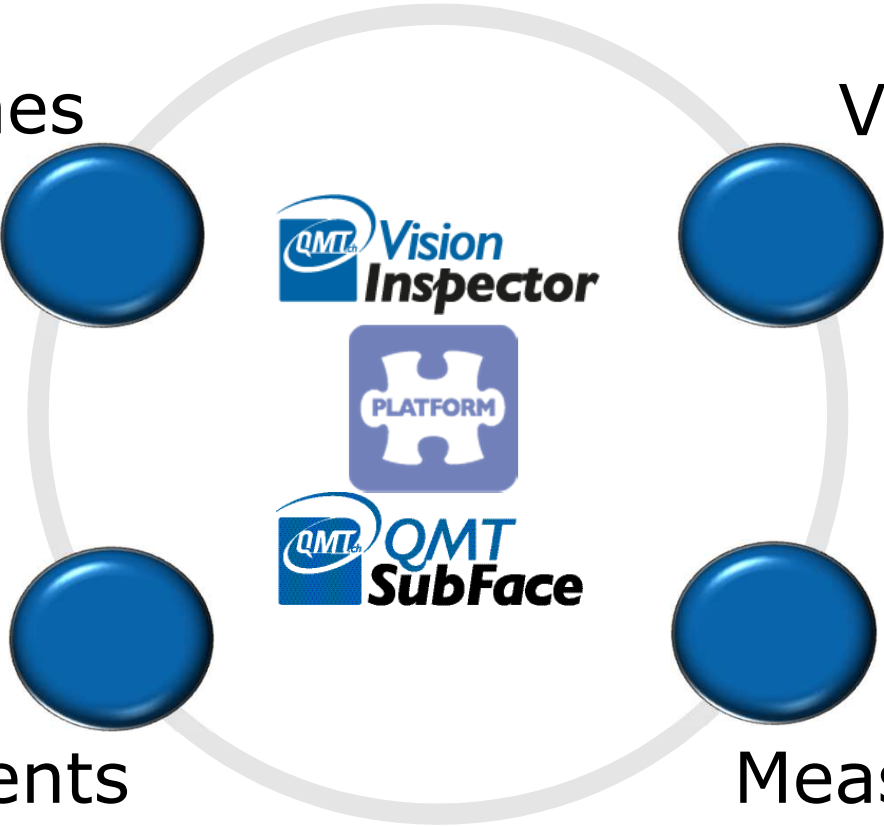
An enlarged product portfolio based on a common and efficient platform



Sorting Machines



Vision stations



Vision components



Measuring equipments

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Baud industries

Profile of the Company

Baud industries is a french company based in the Arve Valley and leader in high speed machining and bar turning.

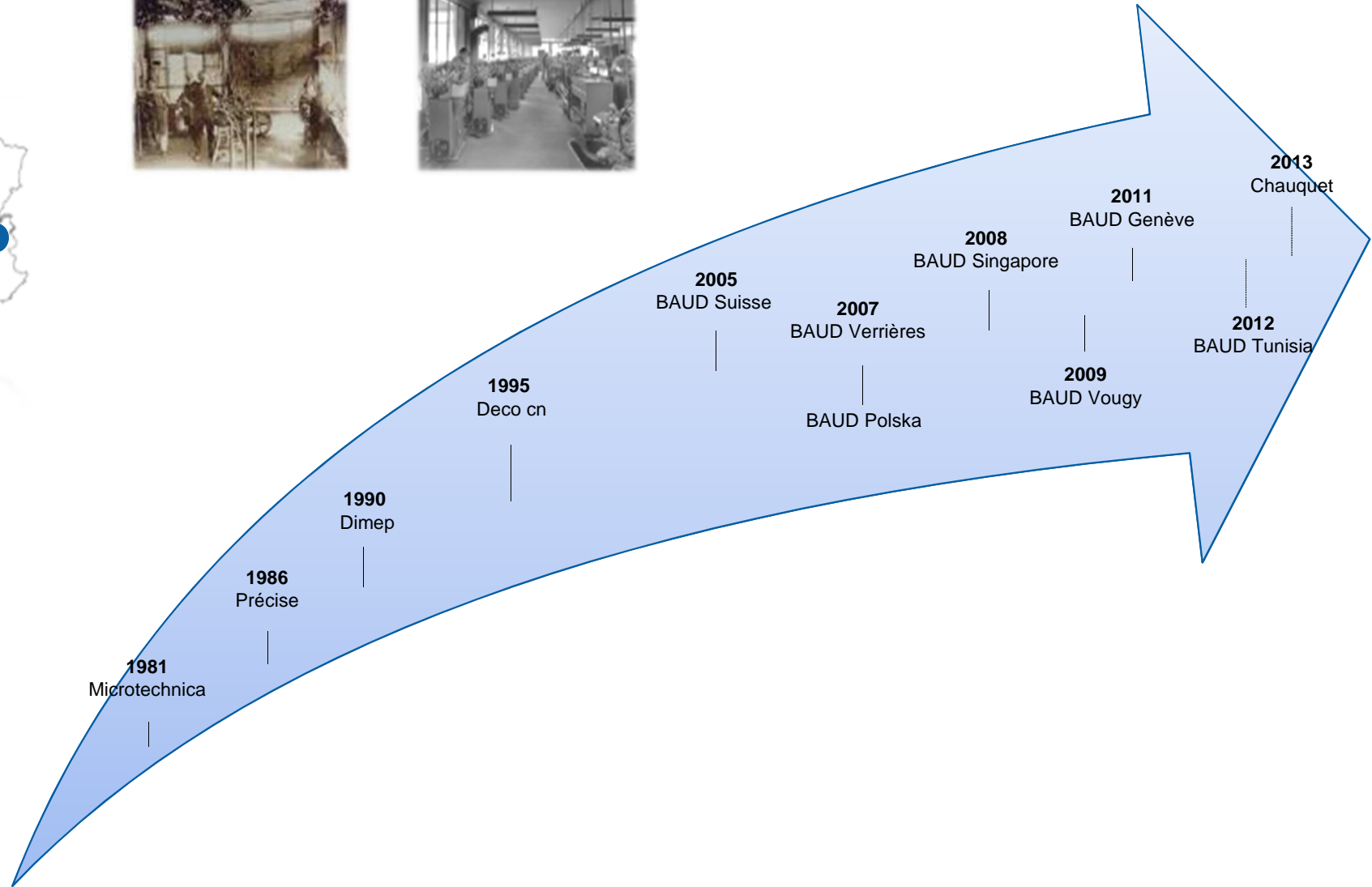


Baud industries

More than 36 years serving their clients



Marcel
BAUD
created
the SARL
BAUD in
1978



Baud industries

Plant location

8 production sites in 5 countries around the world



Baud industries

Product complexity

A family Group widely recognized for its expertise in :

▶ Bar Turning



▶ Precision machining



▶ Mechanical completion

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Requirements

Focus on the part

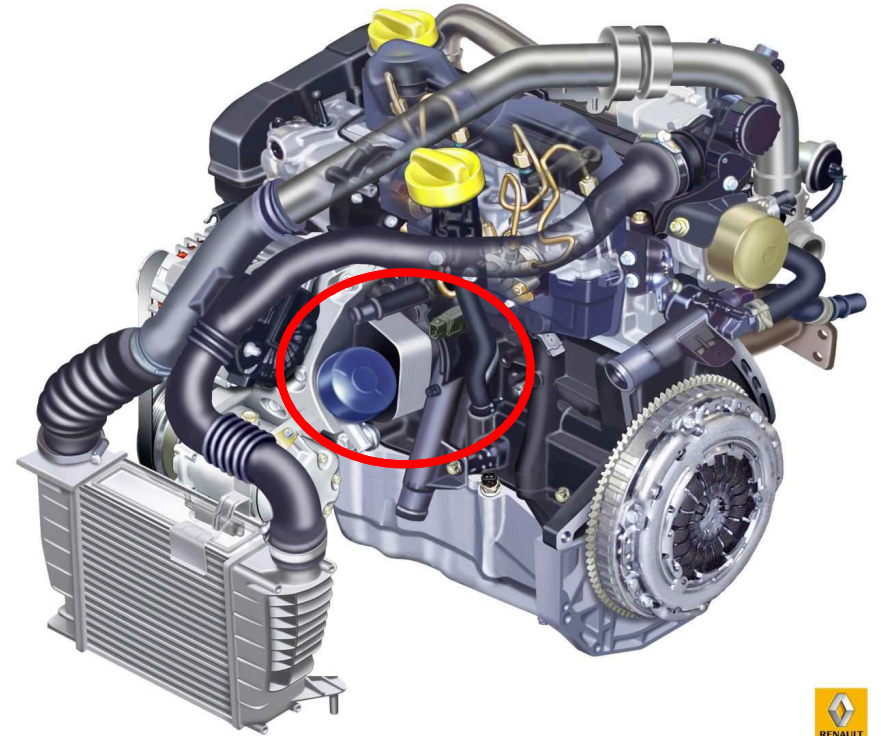
Long® Filter-Mounted Engine Oil Coolers



Raw material . Alu
Dimension: Dia 70 mm – Height : 22 mm

Function: reduce thermal load to improve engine performance and durability.

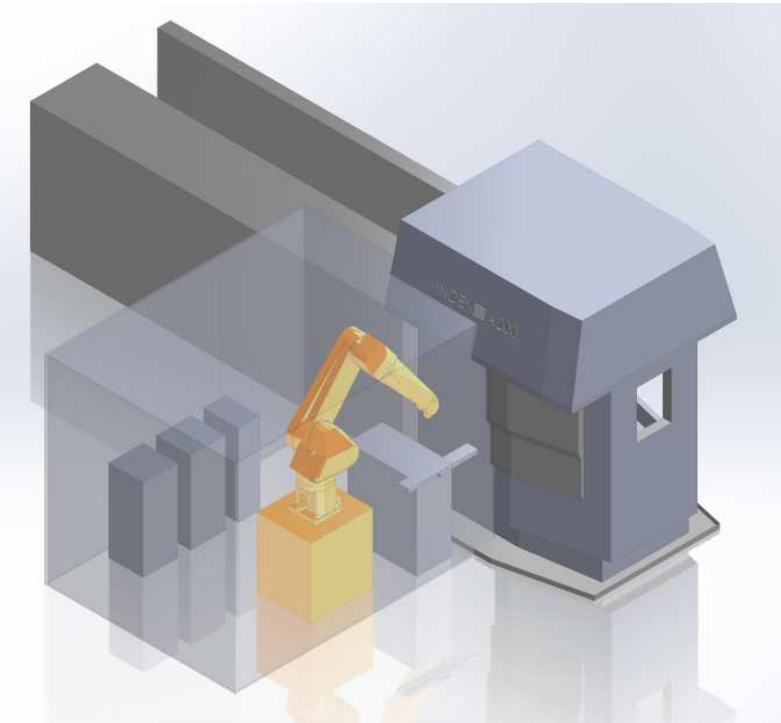
The part in its environment



Requirements

Focus on the process

- Compact production cells
- Lean production



- High speed bar turning
- Dry atmosphere

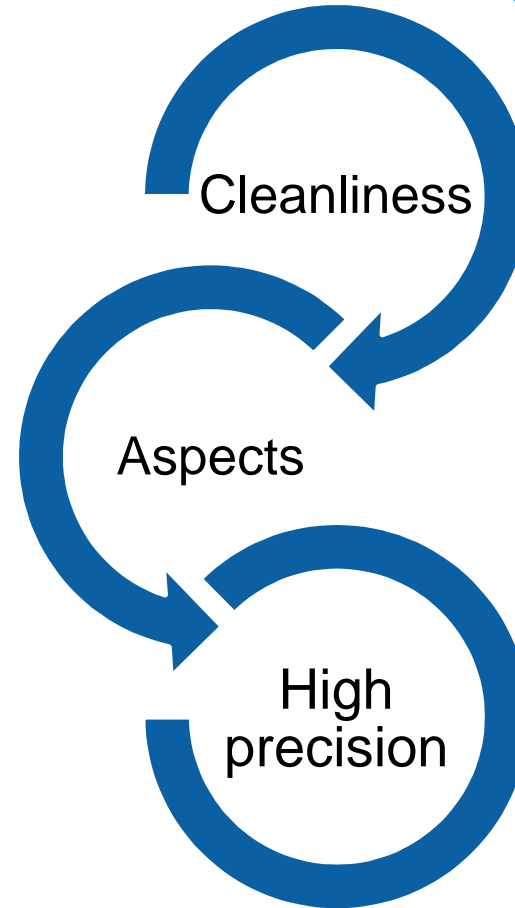


Requirements

Critical points

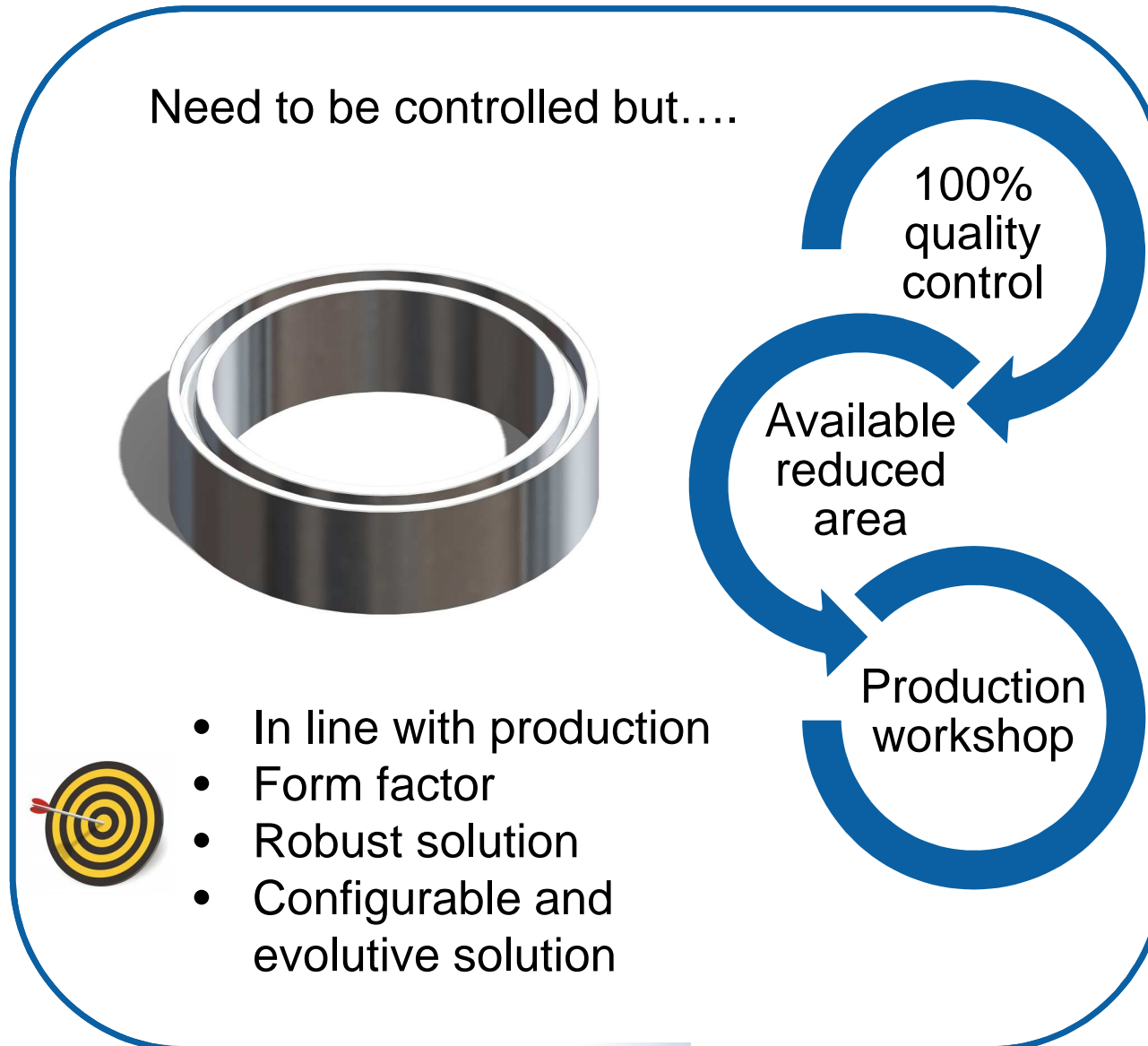


- No chip
- % R&R < 10%
- Inner Dia 60+-0.15
- Cycle time : 5 s



Requirements

Technical and industrialization constraints



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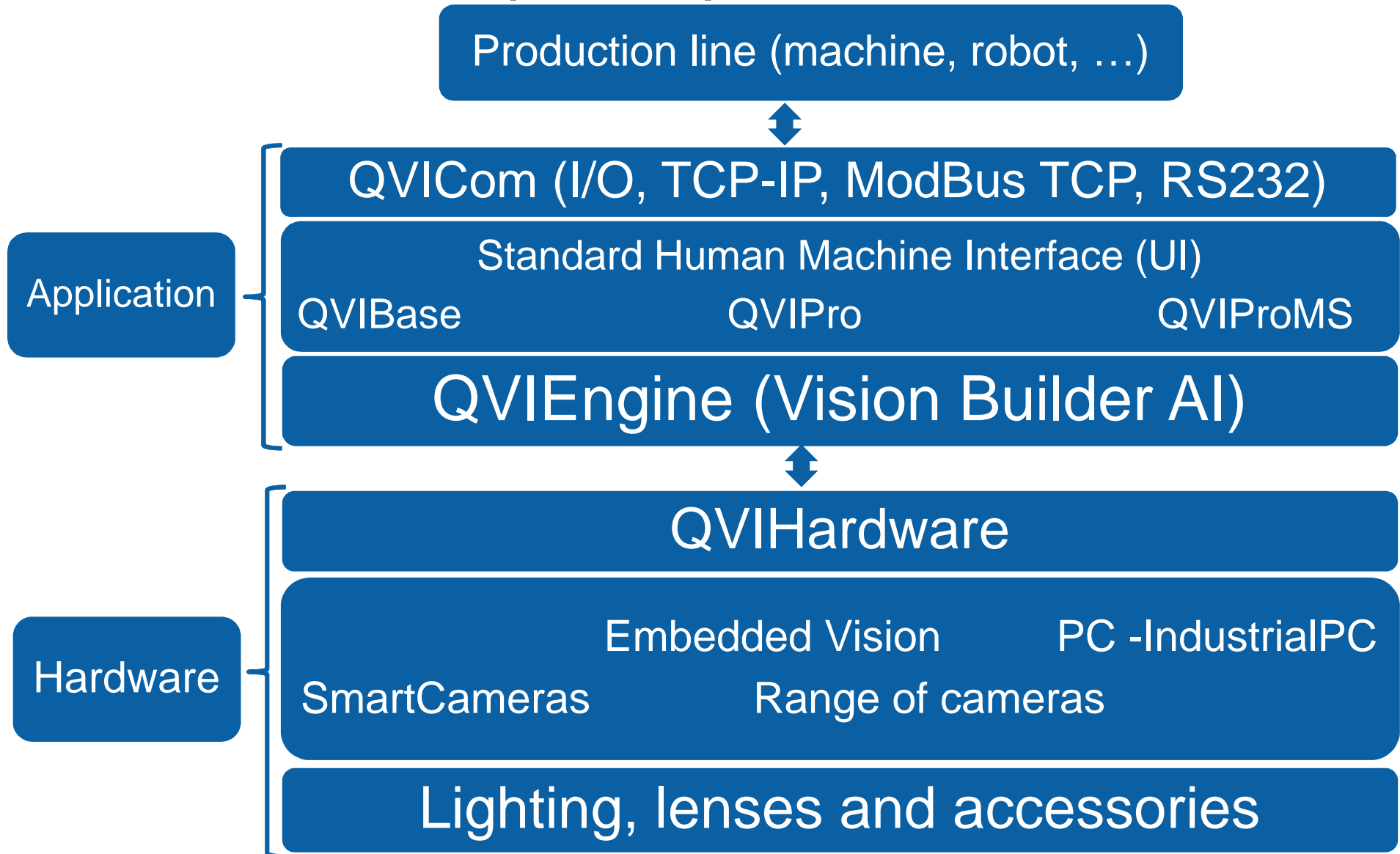
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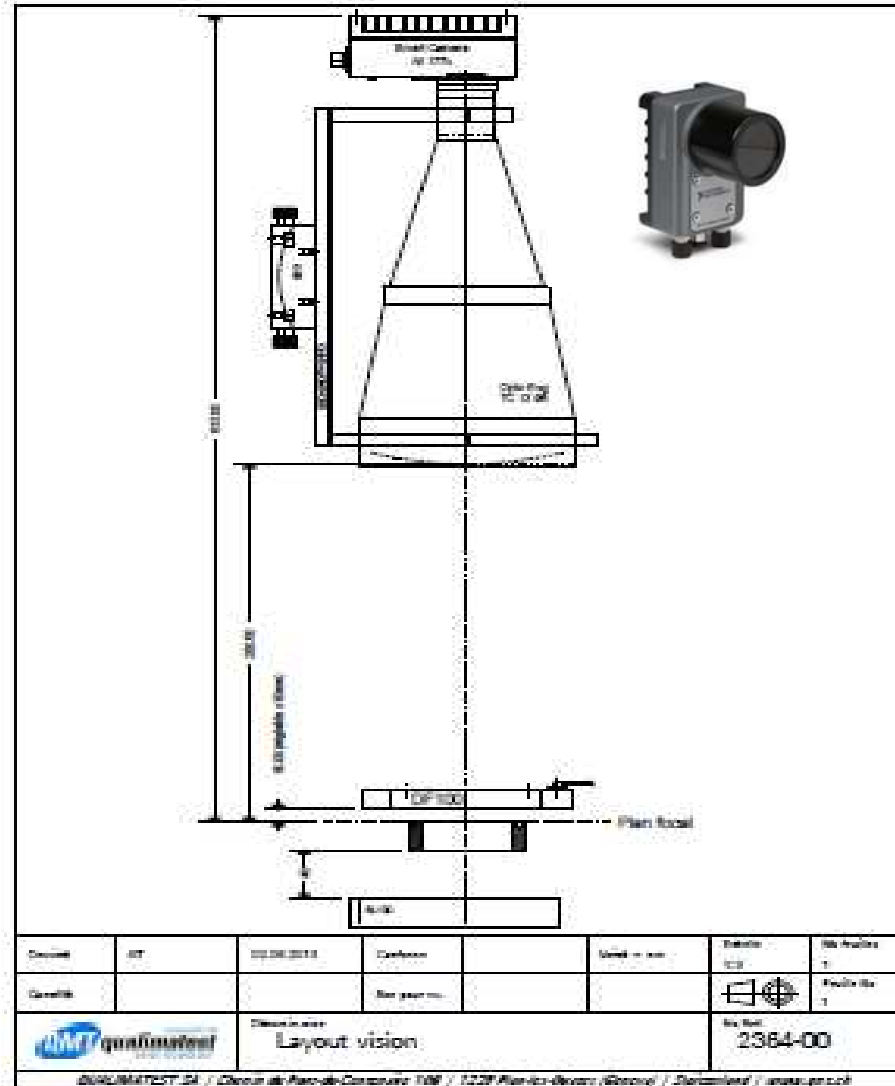
Presentation of the solution

QMT Vision Inspector platform



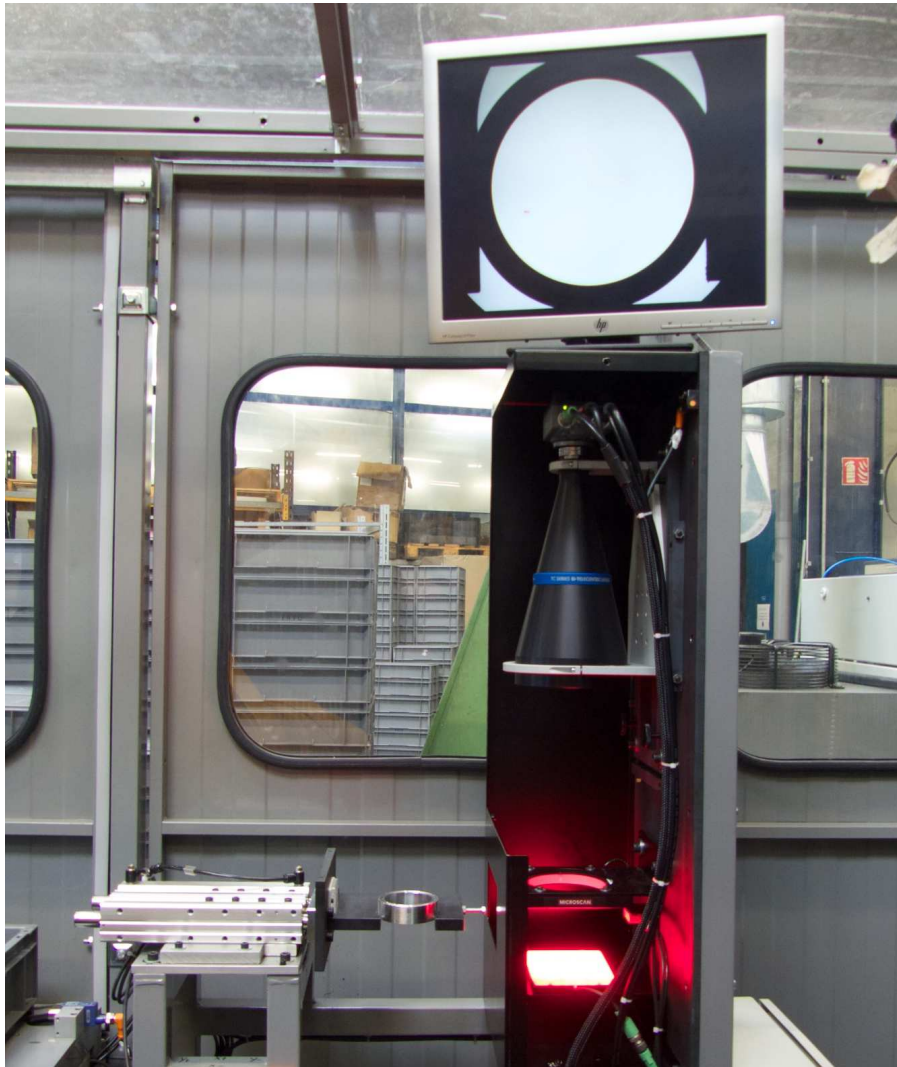
Presentation of the solution

Vision layout definition



Presentation of the solution

Solution set up in its environment



QVI Vision Inspector QVIBase
Le système de vision pour le contrôle de qualité et l'automatisation de processus.

Administrator
Administrators

Production
Référence en cours : RefPiece.

Sélection d'image Réglage Affichage image(s) Affichage mesures Affichage du plan

Périphérique : 2364-Color (10.0.3.75)
Images : Copeau - Copy of Col -> NB

Measure	Unité	Valeur
Abs gorge		
Dint	mm	59.943
Oval		0.045
Copeau		

Bonne

13 Nb pièces total
3 Nb pièces mauvaise(s)
23.1 Taux de rebuts [%]

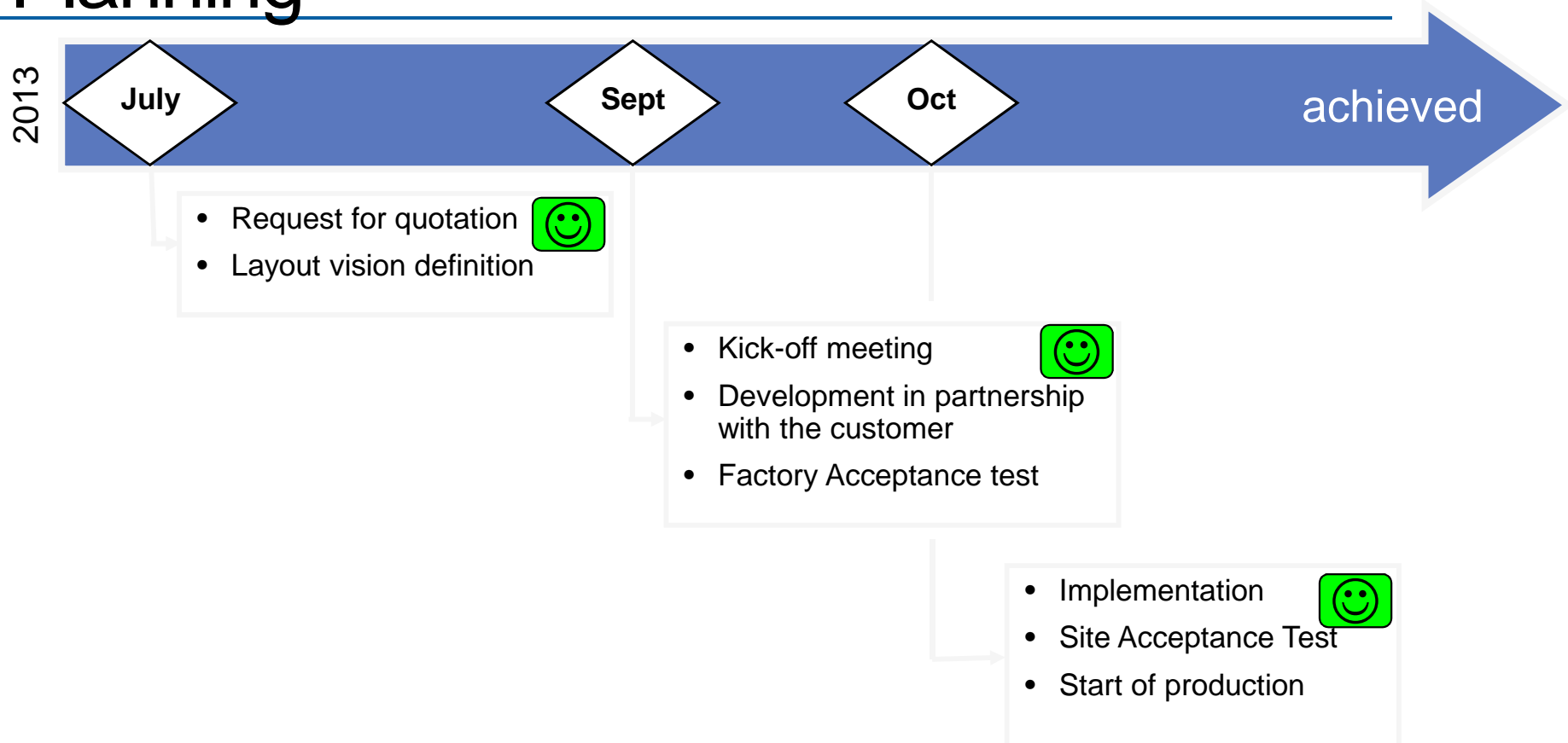
Name	Result
Abs gorge	FALSE
Dint	59.943
Oval	0.045
Copeau	FALSE

Gorge
Dint
Copeau

CopeauMin = 0.000 mm²

Presentation of the solution

Planning



In the target:
Solution developed in 2 months

Agenda

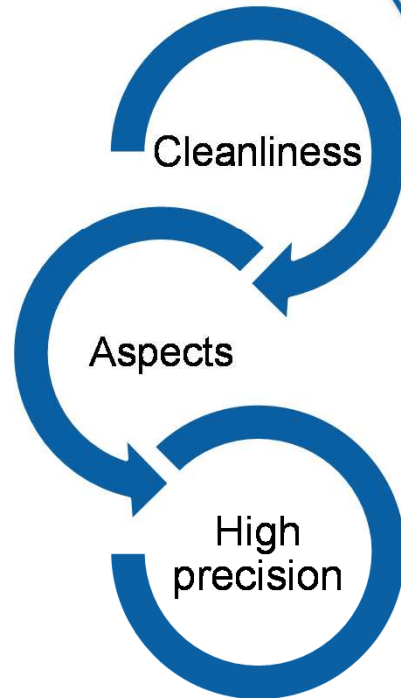
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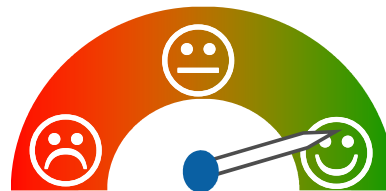
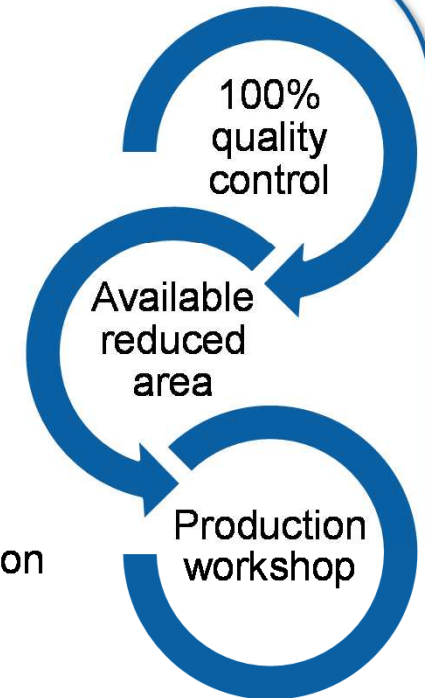
Conclusion



- ✓ No chip
- ✓ % R&R < 10%
- ✓ Inner Dia 60+-0.15
- ✓ Cycle time : 5 s



- ✓ In line with production
- ✓ Form factor
- ✓ Robust solution
- ✓ Configurable and evolutive solution



Customer satisfaction