

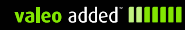


10 years in Software Process Improvement Benefits – Tips – Traps

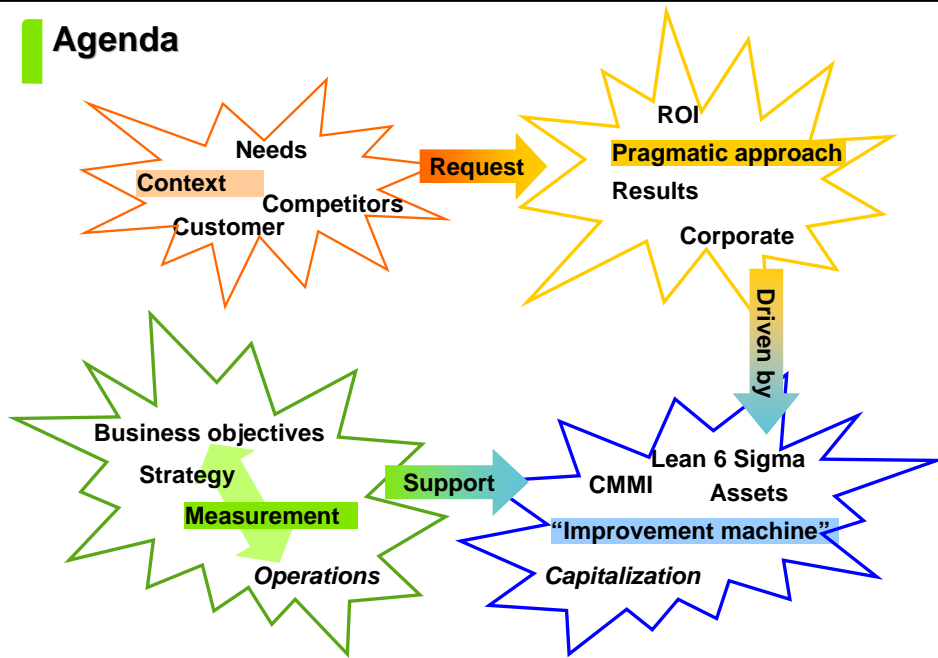
FX de Launet
R&D Efficiency Manager
VALEO

Release A

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Agenda



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Product - Needs

- VALEO switches & Control
- Product lines
- Key figures
 - Production...
 - R&D...
- Needs
 - High volume of production → "Economic security"
 - R&D efficiency → Shareholders, "Back on track"
 - Customer request (CMMI Level 3) → Business hold
- Opportunity
 - Capitalize lessons learned, historical data → "Improvement machine"
 - Optimize SW process efficiency/simplicity → Process tooling

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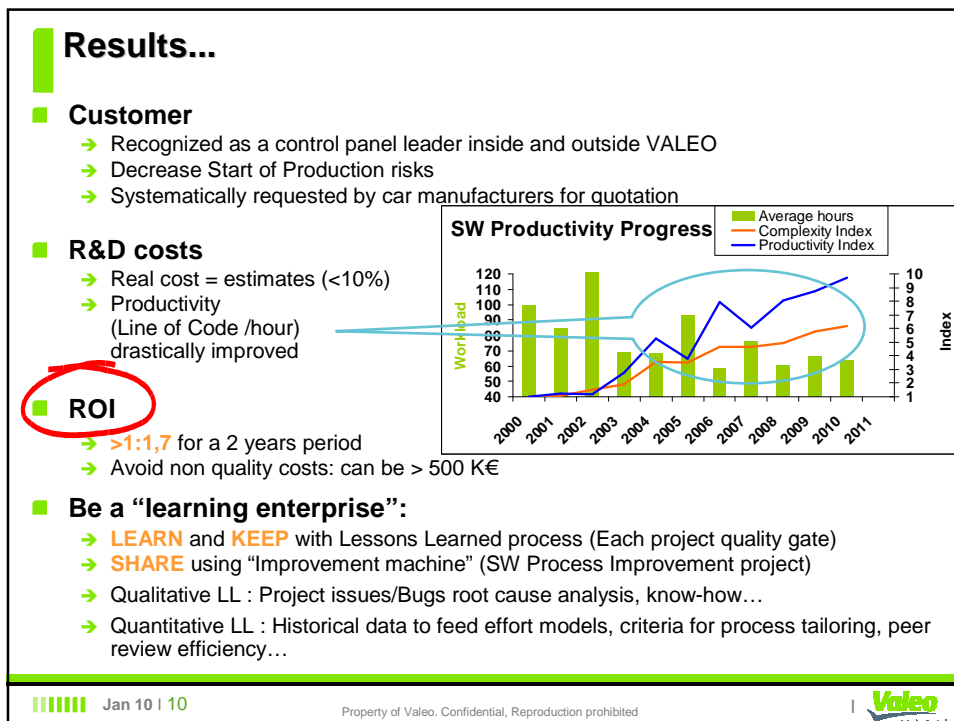
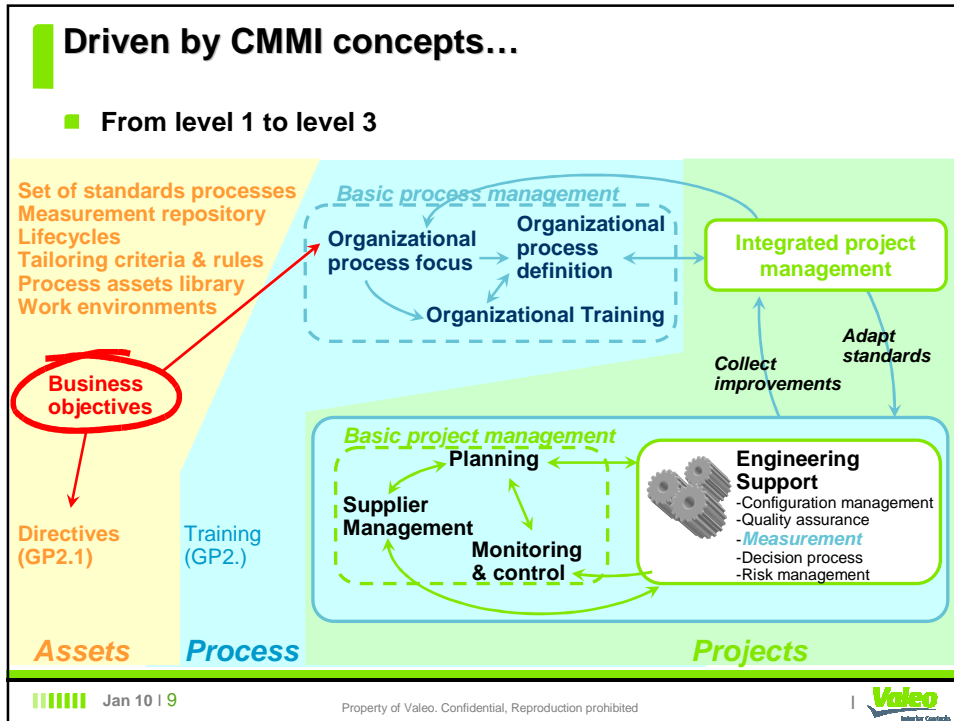
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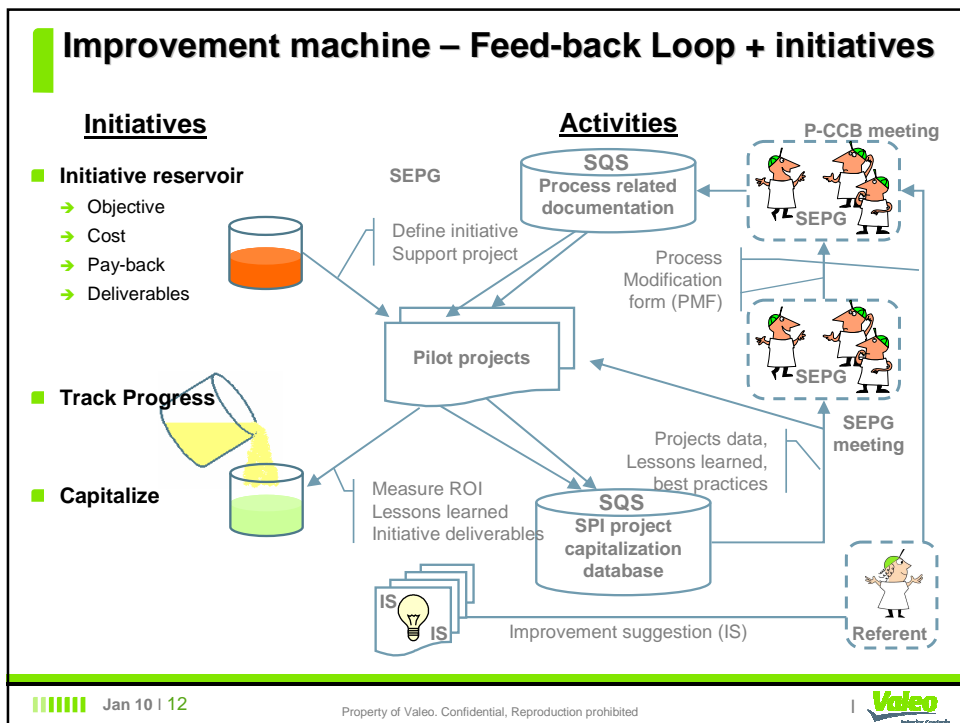
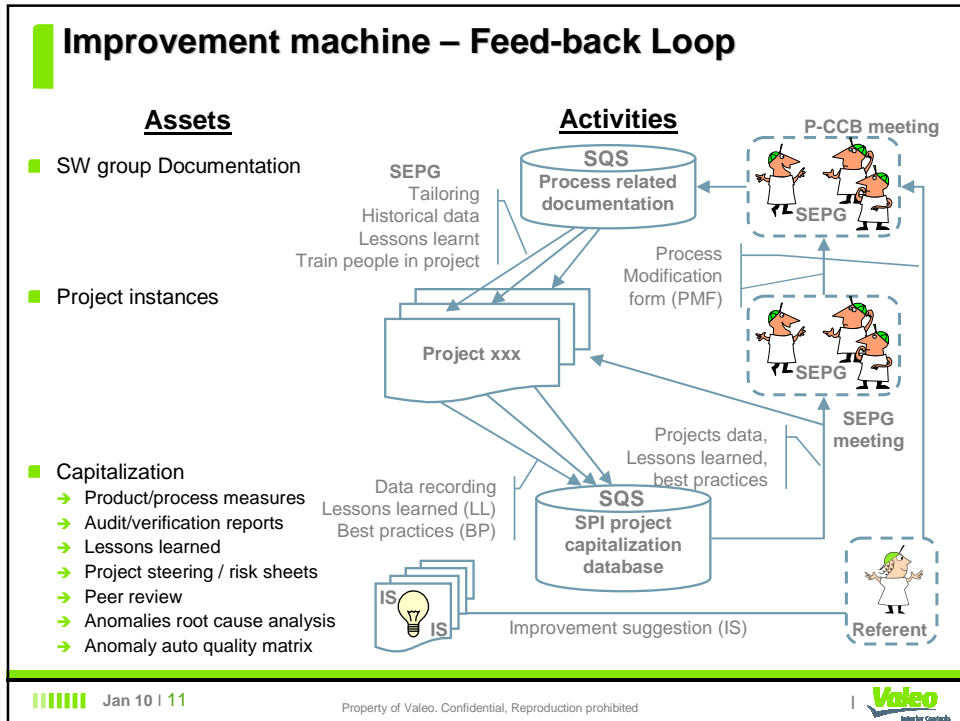
Context – customers – competitors

- Multi site R&D
- Large range of customers OEMs
- Market share with more than 20 competitors

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Improvement machine – Need measures

Determine process improvement opportunities

- Coming from Organization' s business objectives
 - Select scope of improvement
 - Business objectives must be measurable (Define ROI)
- Organization's processes appraisal
 - Not always an official appraisal SCAMPI!
 - Tool box (Observations, interview, process mapping, survey...)
 - Use QUALITY ASSURANCE and VERIFICATION process findings.
- Process improvements identification
 - Qualitative lessons learned from projects, Issues root causes analysis
 - Analyze measures aligned with process improvement objectives

Specify metrics to track initiative

Analyze existing metrics

Maintain existing metrics

Analyze metrics to control ROI

Plan and implement process improvements

- Process improvement project monitored as a normal project
 - Define initiatives (Priority, cost, referents ...)
 - Assets are the product the process improvement project

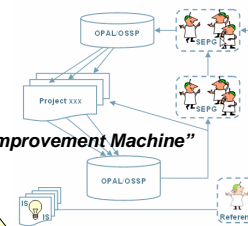
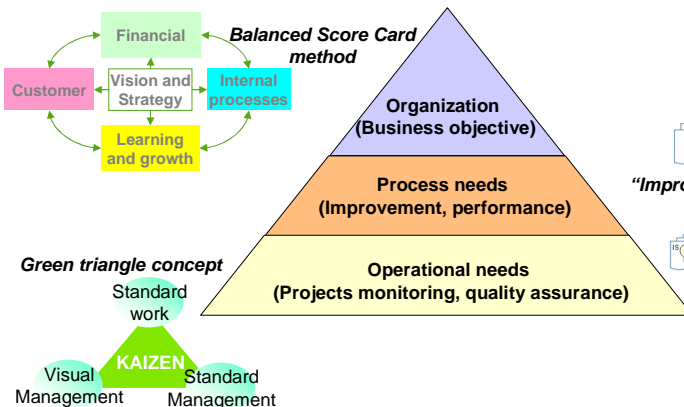
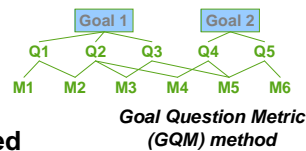
Deploy and Institutionalize

- Try locally (Pilot projects). Measure and demonstrate ROI.
- Incorporate innovation and lessons learned in projects.

Measurement needs

Metrics must address needs

Different needs have to be addressed



Operational objectives... to metrics

Generic objectives

CMMI
GP2.8 : Monitoring needs
GP2.9 : Evaluation needs

ISO TS
Effectiveness
Efficiency

Apply to internal processes objectives

→ Example : "Perform peer review"

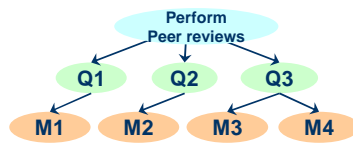
→ Metric defined using GQM process

Question:

Q1 : How many defects detected are accepted ?

Q2 : How many pages per hour are read?

Q3 : Are defect handled immediately?



Metrics :

M1 : Ratio of defect accepted

M2 : Number of page cross read per hour

M3 : Time for inspector feedback

M4 : Time for work-product correction

→ Standard Metric description



Peer review guideline, templates

- Definition
- Collection
- Storage



- Acceptance criteria
- Analysis: When, Who
- Standard reaction

Capitalization objectives... to metrics

Generic objectives

CMMI
GP3.2 : Capitalization needs
GP4.1 : Process performance

ISO TS
Continuous improvement

Apply to internal processes objectives

→ Example : "Improve peer review"

→ Metric defined using GQM process

Question:

Q1 : What are thresholds for defect detection ?

Q2 : Are thresholds dependent of work-product?

Q3 : Is defect detection varies along time



Metrics :

M1 : Aggregate projects ratio of defect accepted

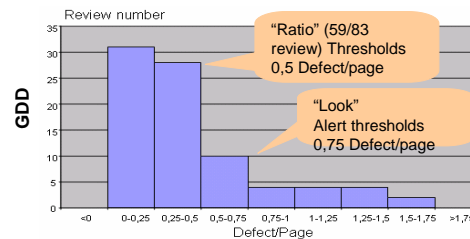
M2 : Aggregate projects Number of page per hour

M3 : Trend of M1 per quarter

M4 : Trend of M2 per quarter

→ Standard Metric description

- Analysis in SEPG
- Whisker box + histogram method
- Update thresholds in defined process

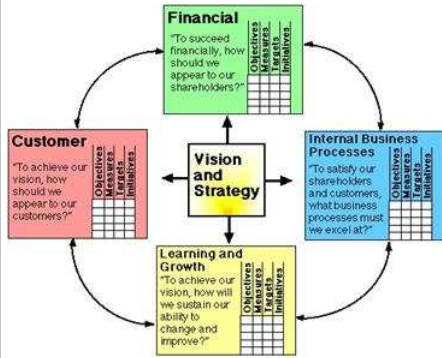


Business objectives... to metrics

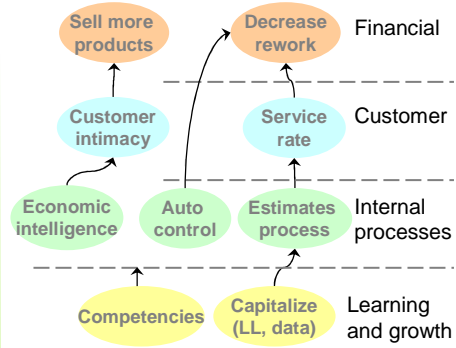
- Use “Balanced Score Card” method to derive

- ➔ business objectives from organization strategy
- ➔ initiatives from Business objectives
- ➔ Metrics to track initiative objectives achievement

Concept

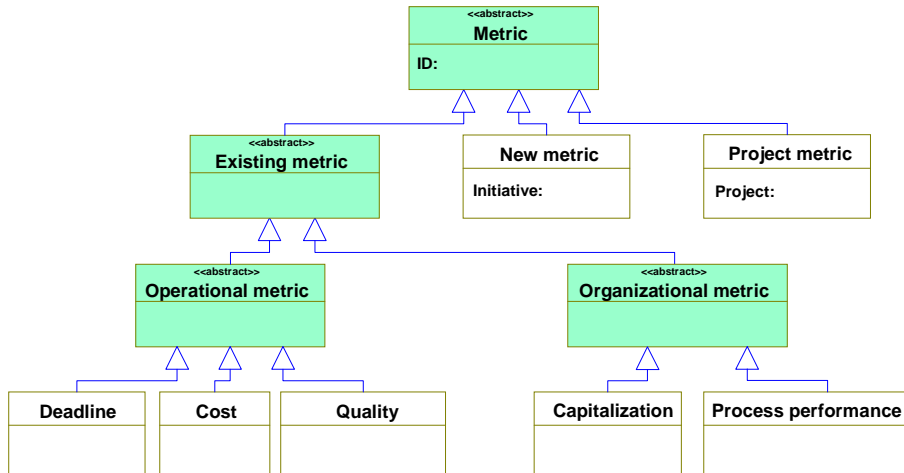


Example (Chain to effect relationship)



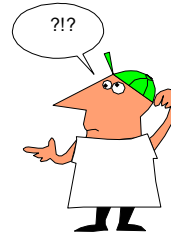
Metrics categories - Synthesis

- Metrics class diagram





Thank-you



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