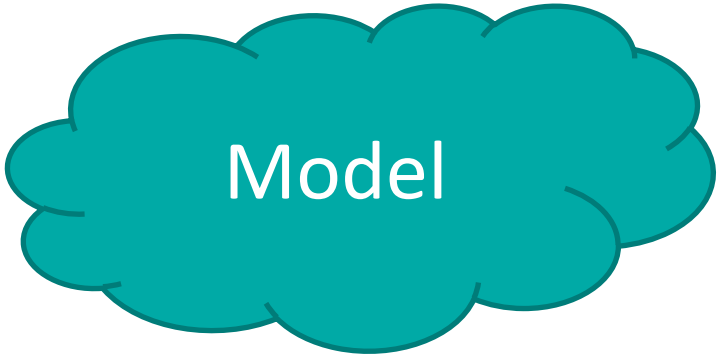
Automotive Customers - Extract

How Mature are Maturity Models?

Embedded Eclipse Day

Hans-Jürgen Kugler

Stuttgart, 25 June 2009



- Personal development
- Product
- Processes
- ...

- Psychology – development of personality
- Development stages of a product
- Probability of acceptable outcome
- ...

- Want to be able to “rank” a characteristic of a system based on defined criteria → model

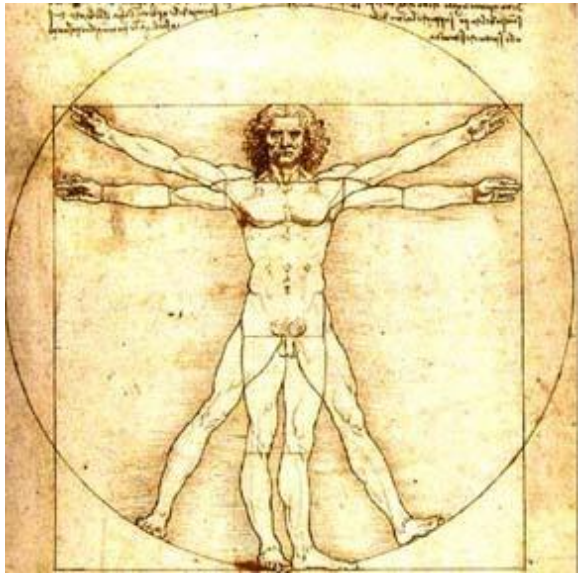
- Defines some sort of measurement framework
- Experience based

Maturity

Model

•Purpose

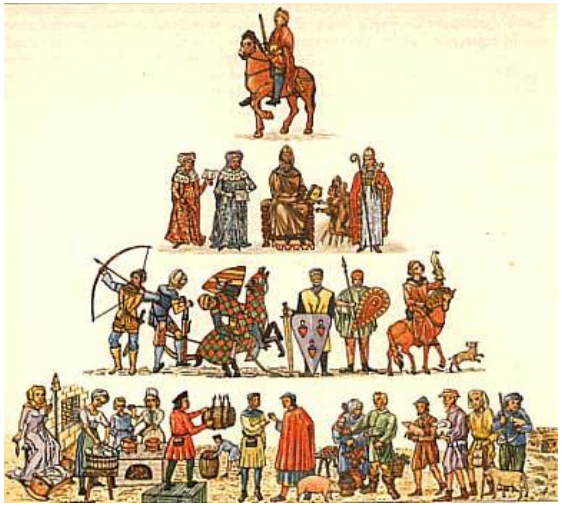
•Rules of deployment



Maturity

Model

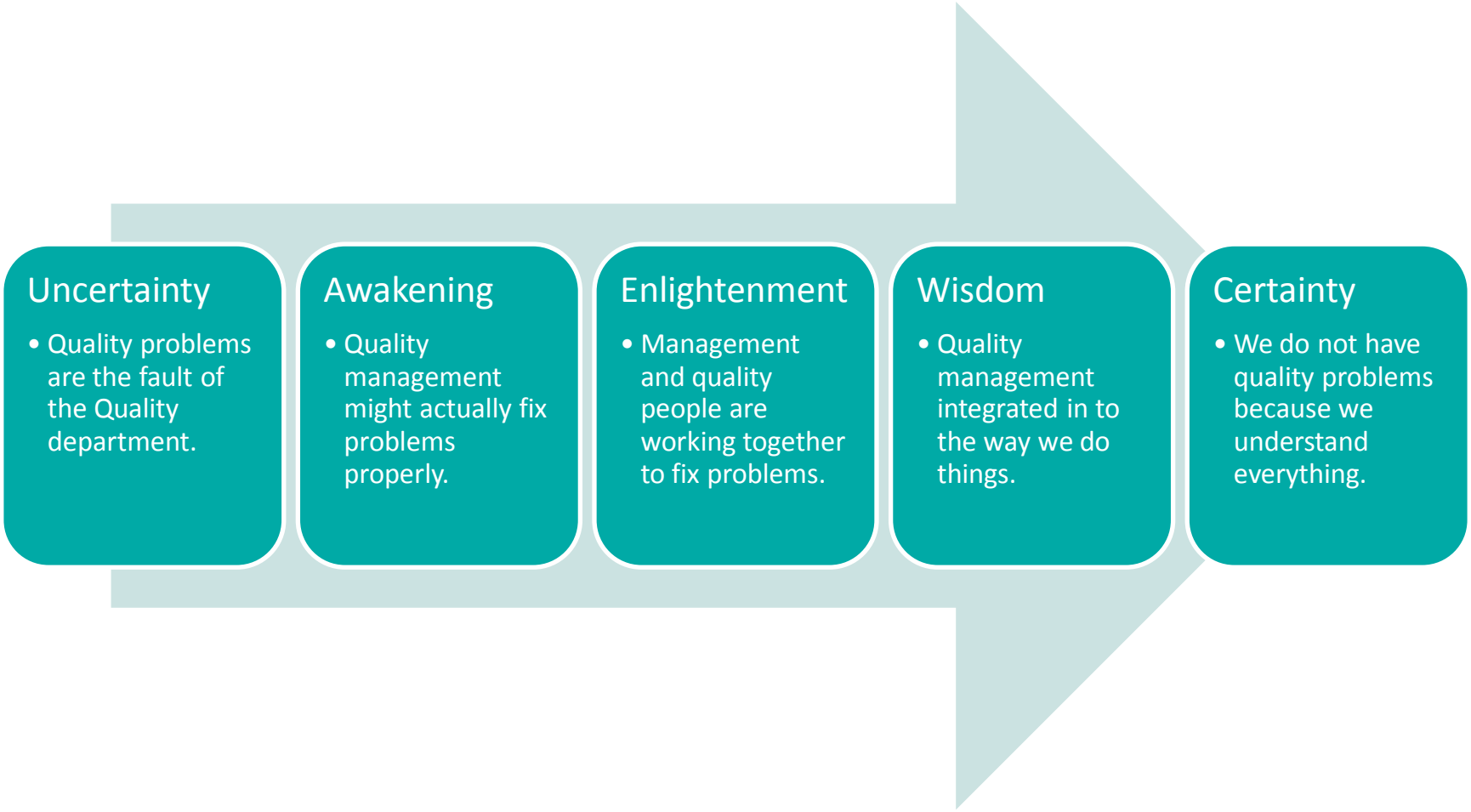
- Ability to deliver quality products on time
- Supplier evaluation



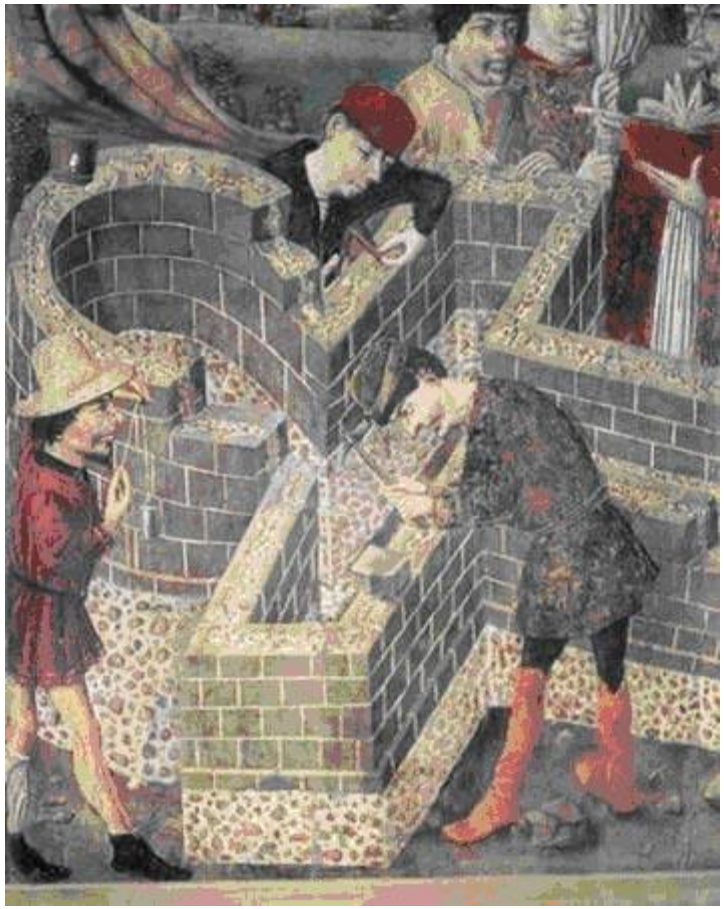
?

Quality Management Maturity Grid

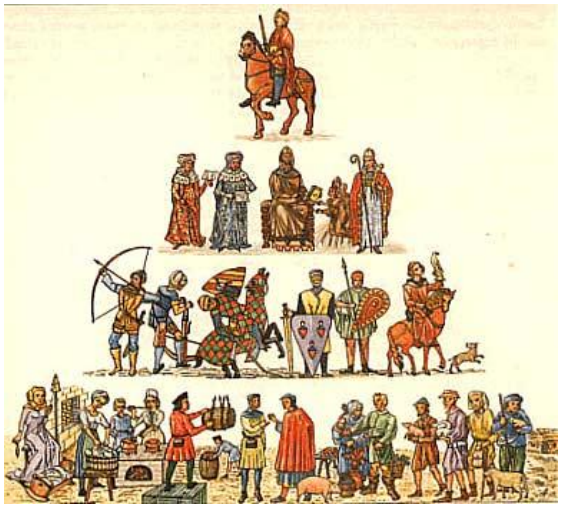
[Phil Crosby, Quality is Free, 1979]



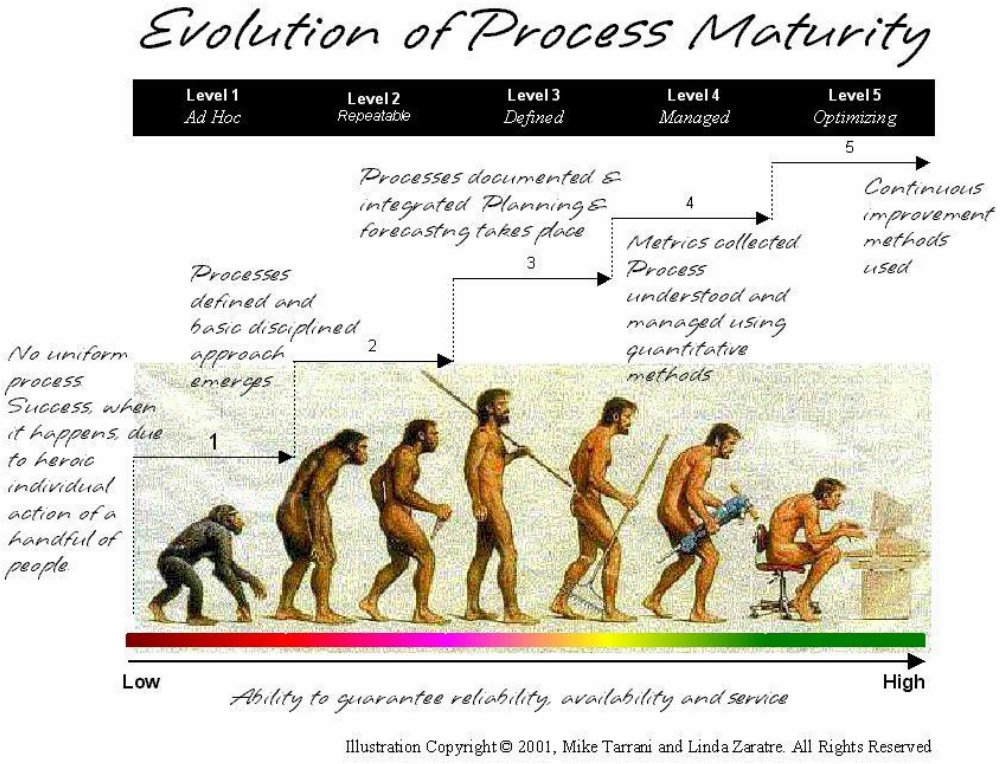
$Quality_{product} = f(Quality_{process})$



Maturity



Model



http://zaratetarrani.blogspot.com/

Automotive SPICE™
Process dimension of Automotive SPICE™ compared to ISO/IEC 15504

Management Process Group (MAN)	
	MAN.1 Organizational alignment
	MAN.2 Organization management
A	MAN.3 Project management
	MAN.4 Quality management
A	MAN.5 Risk management
A	MAN.6 Measurement

Engineering Process Group (ENG)	
A	ENG.1 Requirements elicitation
A	ENG.2 System requirements analysis
A	ENG.3 System architectural design
A	ENG.4 Software requirements analysis
A	ENG.5 Software design
A	ENG.6 Software construction
A	ENG.7 Software integration
A	ENG.8 Software testing
A	ENG.9 System integration
A	ENG.10 System testing
	ENG.11 Software installation
	ENG.12 Software and system maintenance

Supporting Process Group (SUP)	
A	SUP.1 Quality assurance
A	SUP.2 Verification
	SUP.3 Validation
A	SUP.4 Joint review
	SUP.5 Audit
	SUP.6 Product evaluation
A	SUP.7 Documentation
A	SUP.8 Configuration management
A	SUP.9 Problem resolution management
A	SUP.10 Change request management

The Acquisition Process Group (ACQ)	
	ACQ.1 Acquisition preparation
	ACQ.2 Supplier selection
A	ACQ.3 Contract agreement
A	ACQ.4 Supplier monitoring
	ACQ.5 Customer acceptance
A	ACQ.11 Technical requirements
A	ACQ.12 Legal and administrative requirements
A	ACQ.13 Project requirements
A	ACQ.14 Request for proposals
A	ACQ.15 Supplier qualification

Resource & Infrastructure Process Group (RIN)	
	RIN.1 Human resource management
	RIN.2 Training
	RIN.3 Knowledge management
	RIN.4 Infrastructure

Operation Process Group (OPE)	
	OPE.1 Operational use
	OPE.2 Customer support

Supply Process Group (SPL)	
A	SPL.1 Supplier tendering
A	SPL.2 Product release
	SPL.3 Product acceptance support

Process Improvement Process Group	
	PIM.1 Process establishment
	PIM.2 Process assessment
A	PIM.3 Process improvement

Reuse Process Group (REU)	
	REU.1 Asset management
A	REU.2 Reuse program management
	REU.3 Domain engineering

A Automotive-SPICE

new HIS-Scope

not included in IS

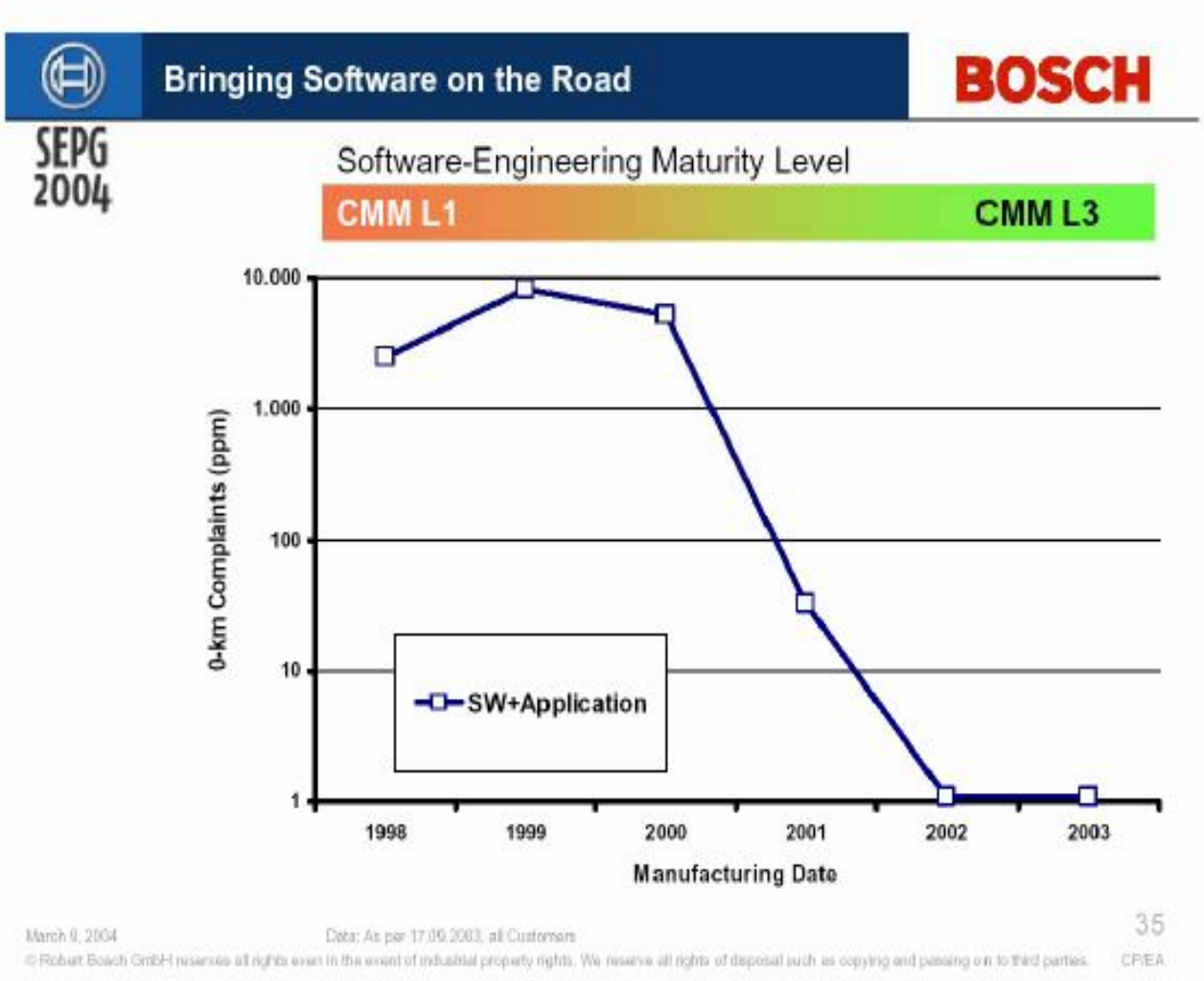
Model is free of charge (after registration) available at www.automotivespice.com

KUGLER MAAG CIE

Process Maturity

- 5 Optimizing
- 4 Predictable
- 3 Established
- 2 Managed
- 1 Performed
- 0 Incomplete

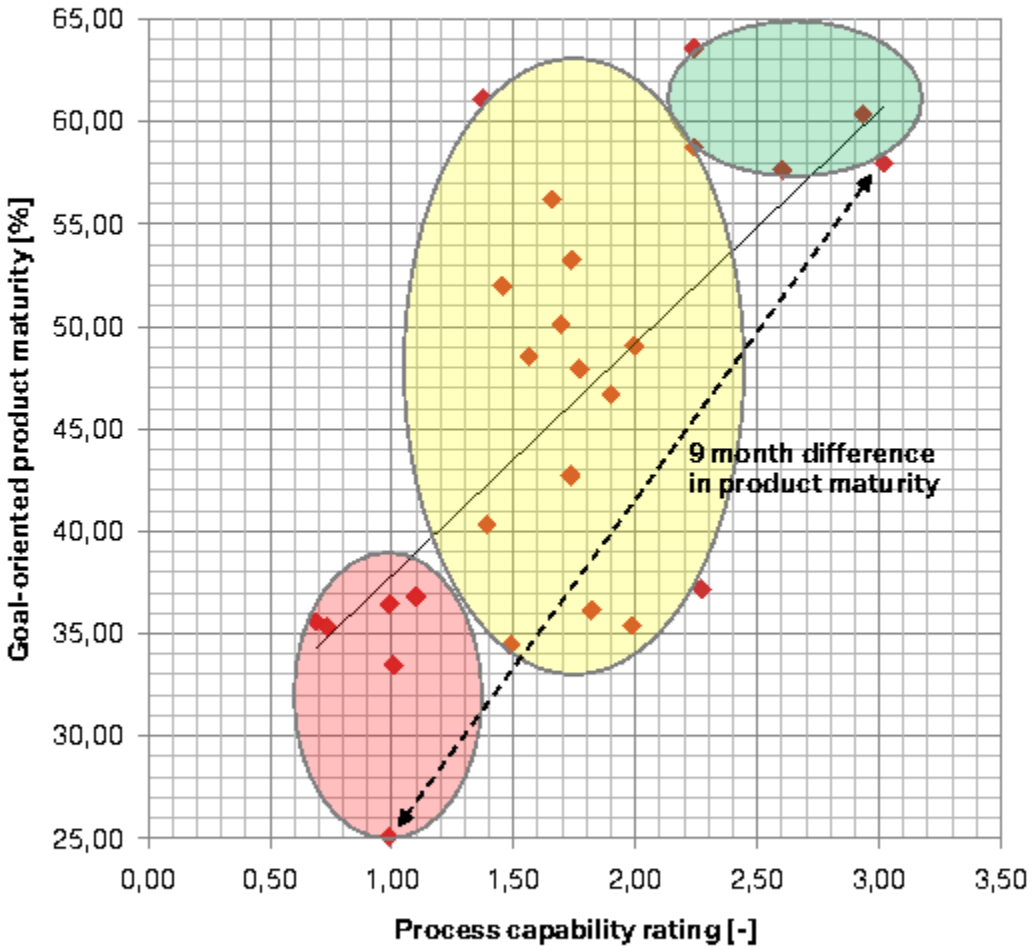
Quality impact of higher process maturity



KUGLER MAAG CIE

Higher process capability increases product maturity.

Result of correlation.



Identified Clusters

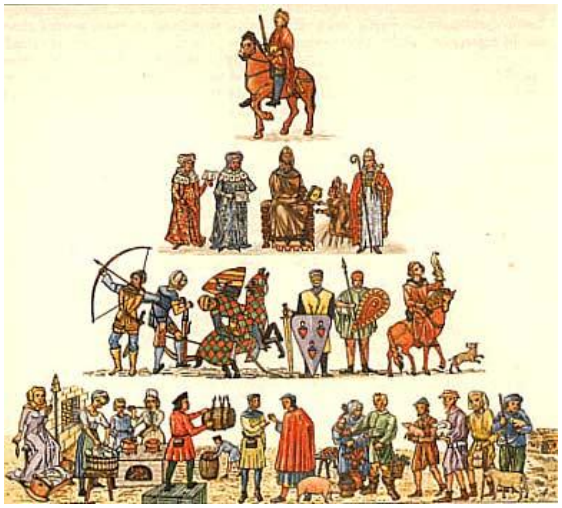
Cluster 1:
Low process capability, late product maturity.

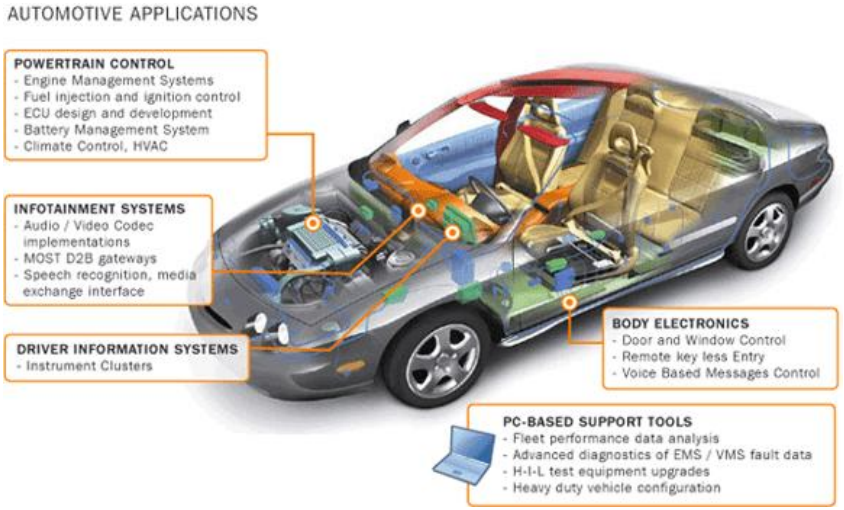
Cluster 2:
Transition phase, project management incomplete, product maturity differs.

Cluster 3:
High process capability, early product maturity.

Clear correlation between goal-oriented product maturity and process capability.

So – is there a problem?





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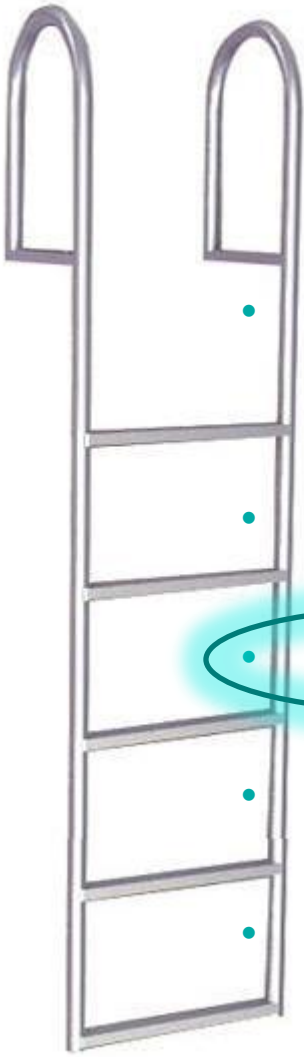
Process Maturity



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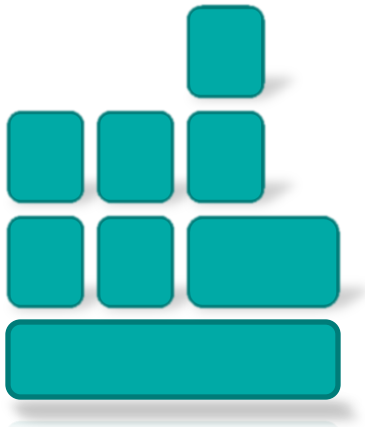


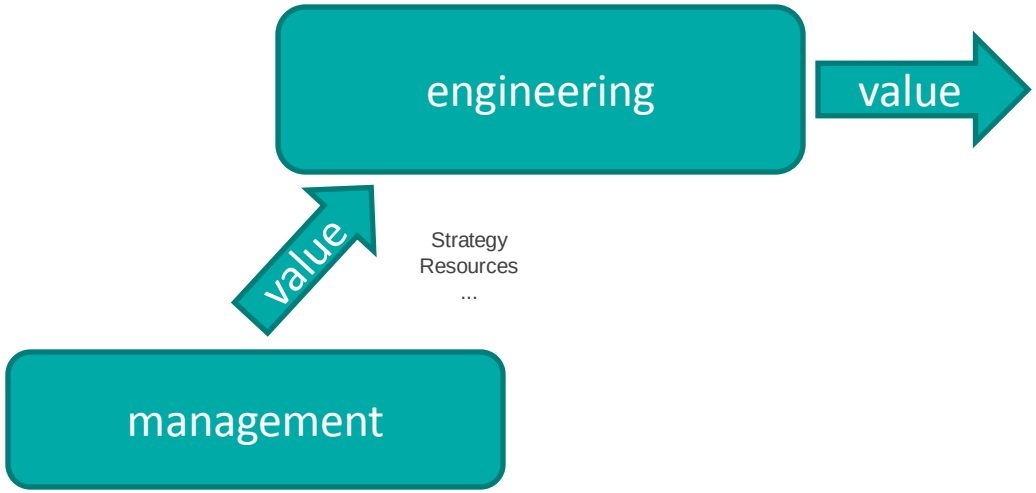
Process Fortess

Fast delivery of products requires Agile organisations

- Processes connect, they are not for control
- Maturity models are ok
- Their users may be immature

- We need the Inverse of Conway's Law
  - Fast delivery of interdependent products can only be achieved by networked agile organisations

“Open Organisations”
“Value Orientation”



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Control is good, trust is better.

Lenin^{-1}

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