

# Software Experience Center: The Evolution of the Experience Factory Concept

Frank Houdek

DaimlerChrysler  
Research and Technology  
Dept. Software Engineering  
[frank.houdek@daimlerchrysler.com](mailto:frank.houdek@daimlerchrysler.com)

## Overview

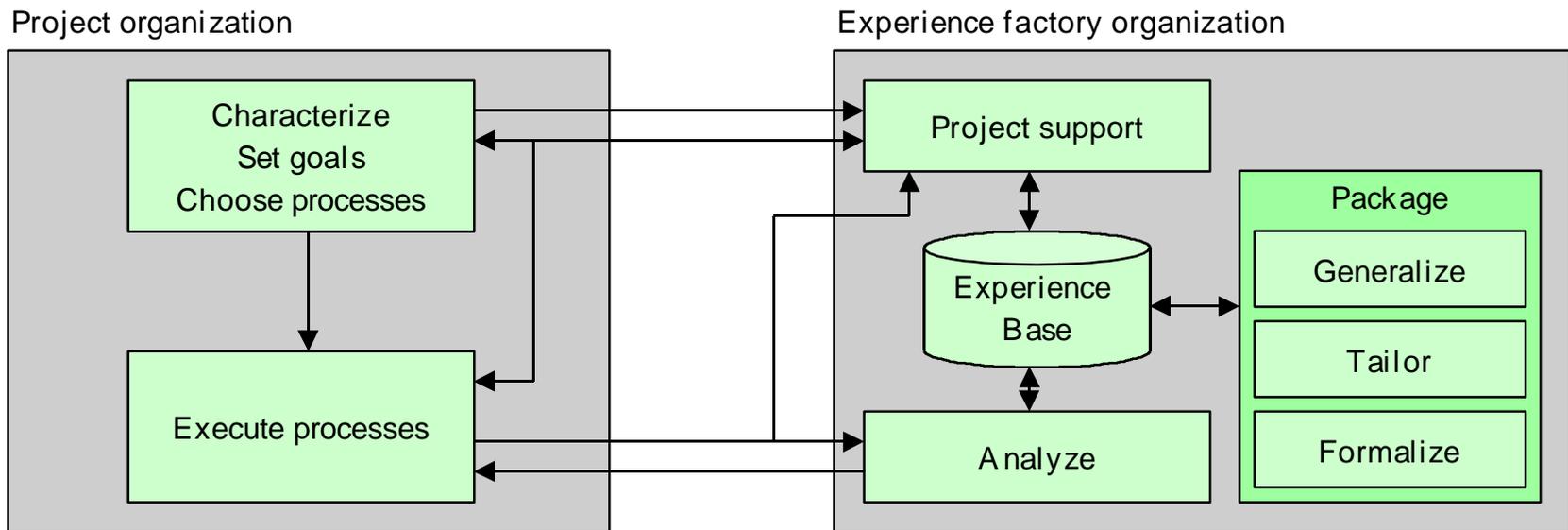
- Short company overview
- “Classic” experience factory - concepts and assumptions
- Dimensions of evolution
  - “quality of information”
  - reinfusion
  - seeding, evolution and reseeding
- Examples of evolved concepts
- Summary

## Company Overview - DaimlerChrysler AG

- Main products:
  - Automobiles
  - Civil and military air- and spacecraft
  - Financial services
- “Experience factory history”
  - since 1997 experience factory initiatives in several business units (passenger car development, military aircraft, central IT services)
  - starting point: SEL experience factory concept
  - mission: establish an experience factory within 2-3 years
  - goal for initiatives: improve software development competency

# Classic Experience Factory Concept

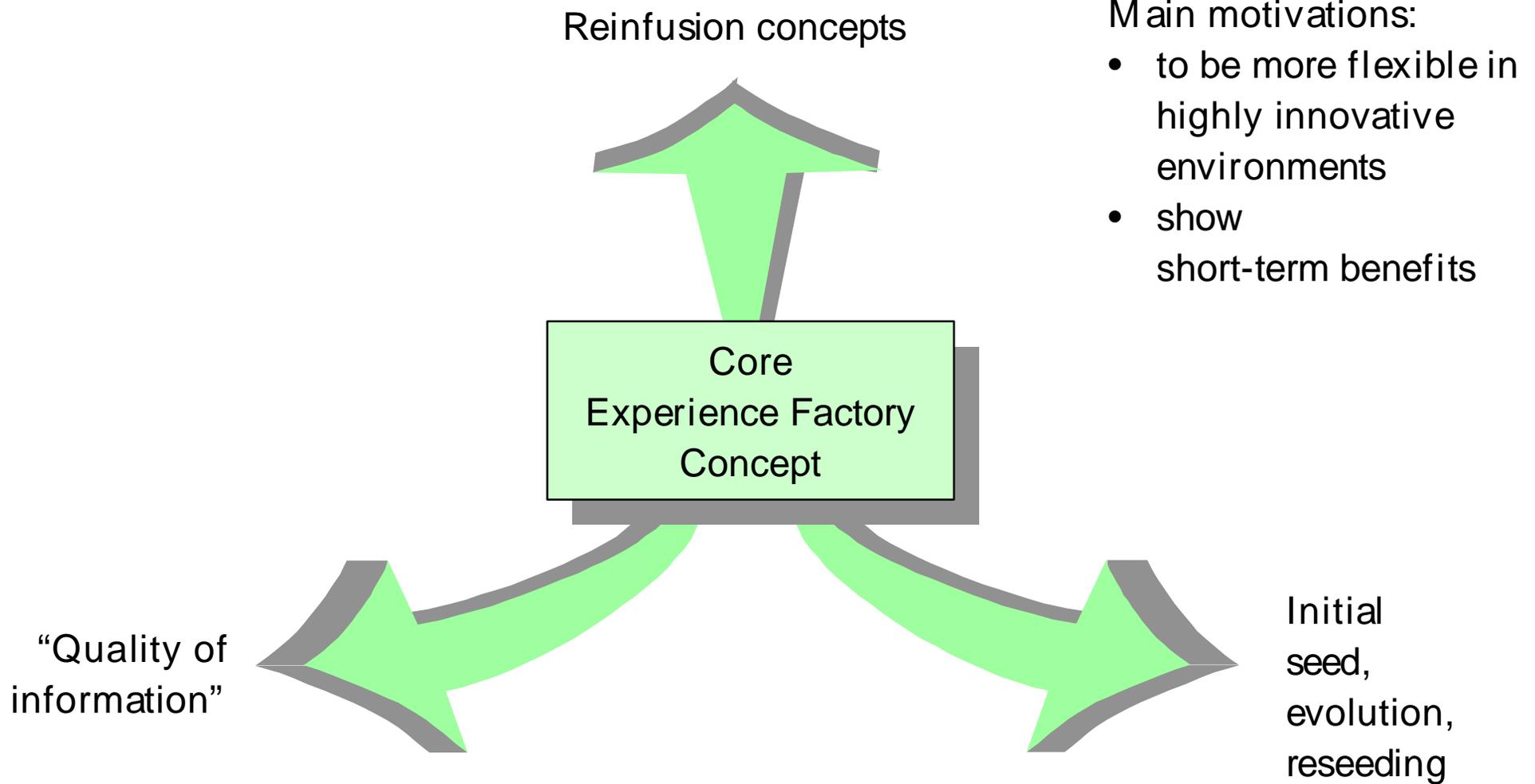
- QIP/GQM-based
  - long-term learning → “patience”
  - goal-oriented → “people know their needs”
- Reuse of models of all kinds  
 (e.g. defect model, cost model, effort distribution, project plan, software architecture,
  - } Explicit model building



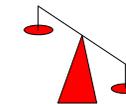
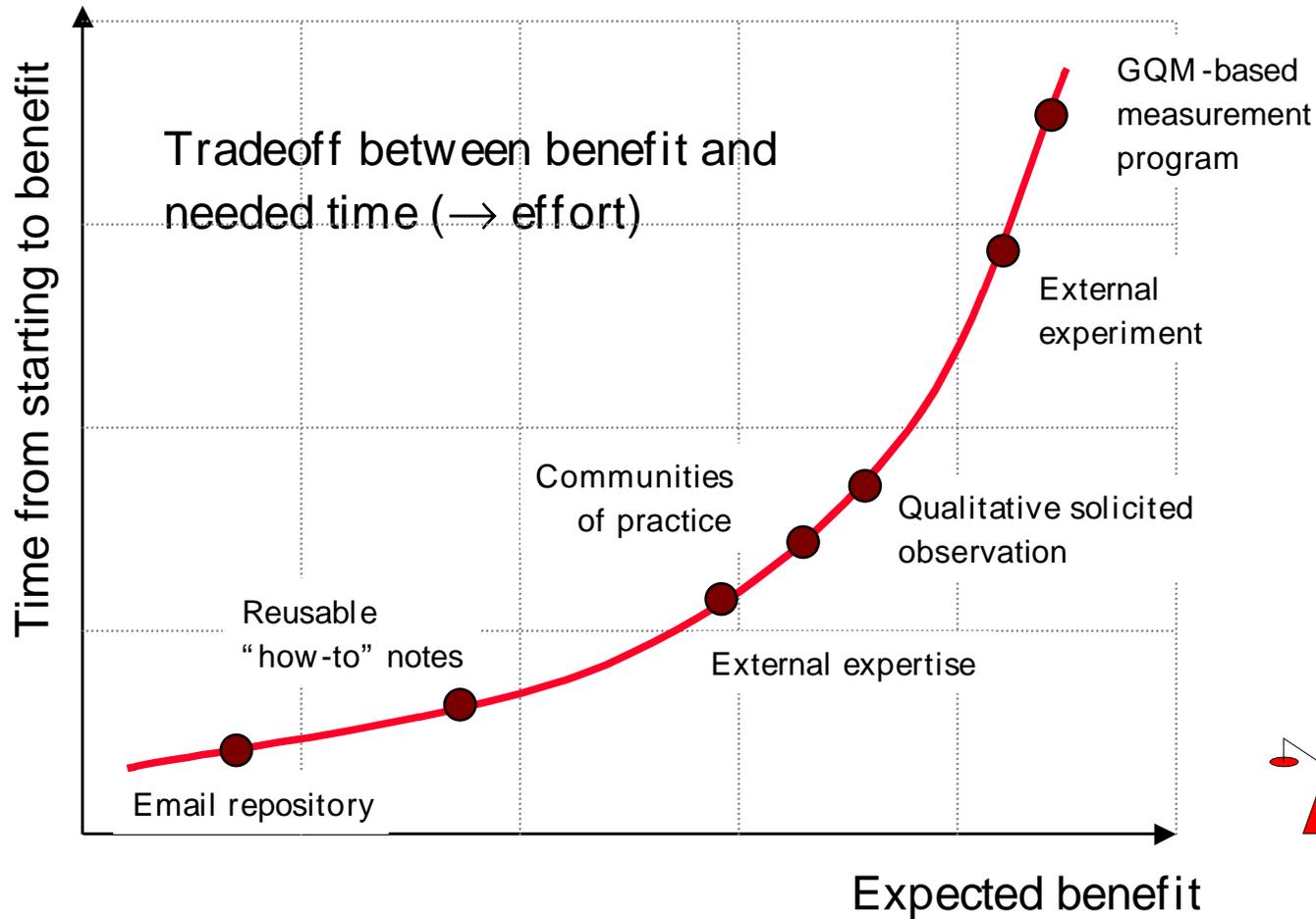
## Experience Factory: Assumptions and Reality

- More or less stable environment
  - some processes in place
  - some kind of “similarities” between projects (to reuse models)
  - common understanding of current situation, actual needs, and possible improvement mechanism
- “Homo economicus”
  - people are willing to accept new, better processes (i.e. pull)
  - people recognize long-term improvement efforts
- Constant management support
  - understanding about deficits and improvement mechanisms
  - encouragement of stuff

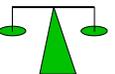
## Dimensions of Evolution



# „Quality of Information“

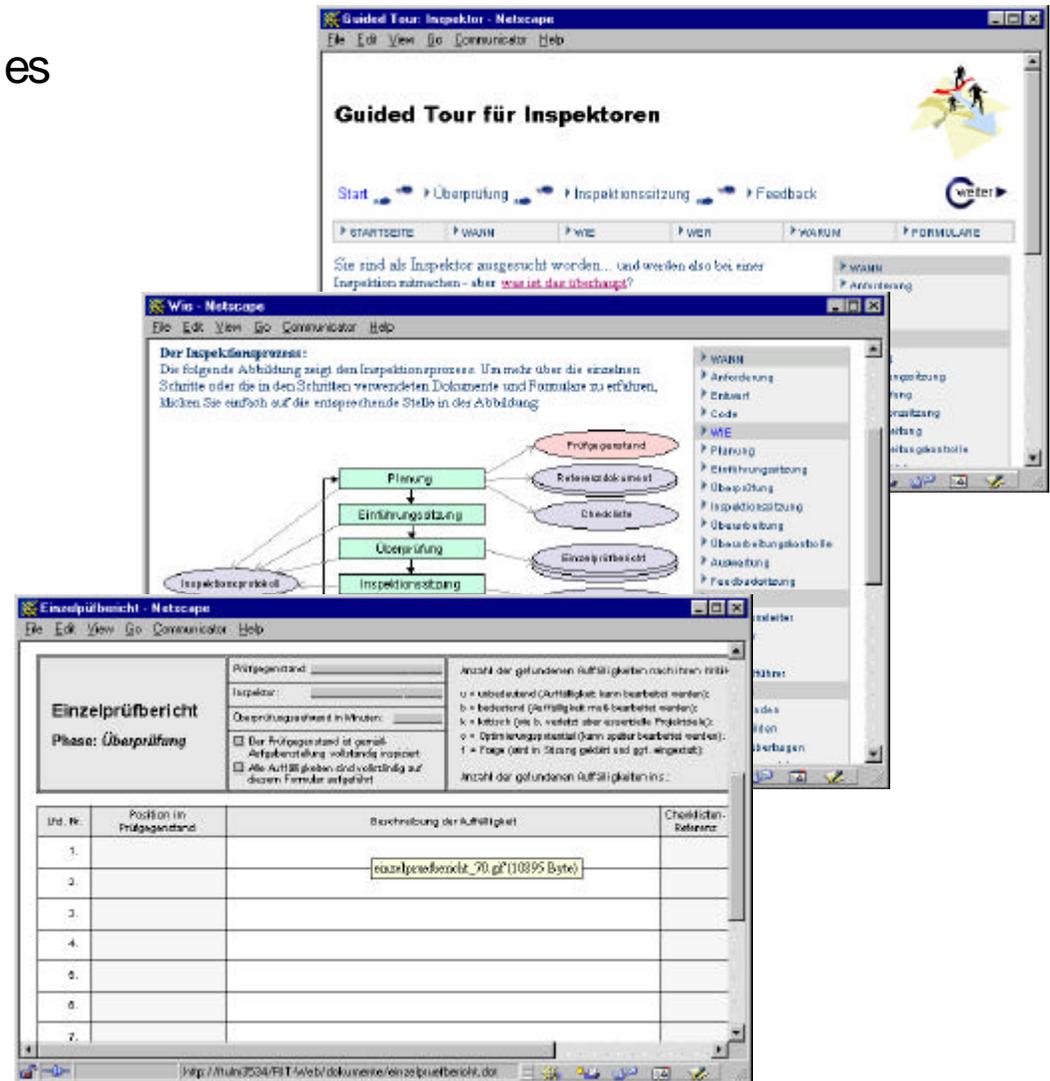
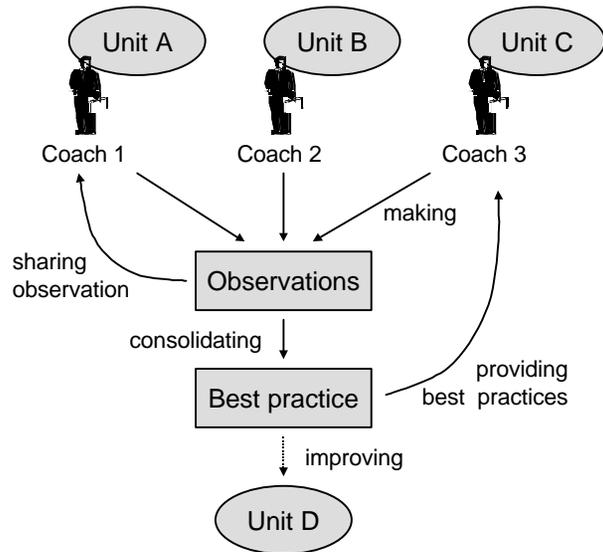


$$utility = \frac{benefit}{effort}$$

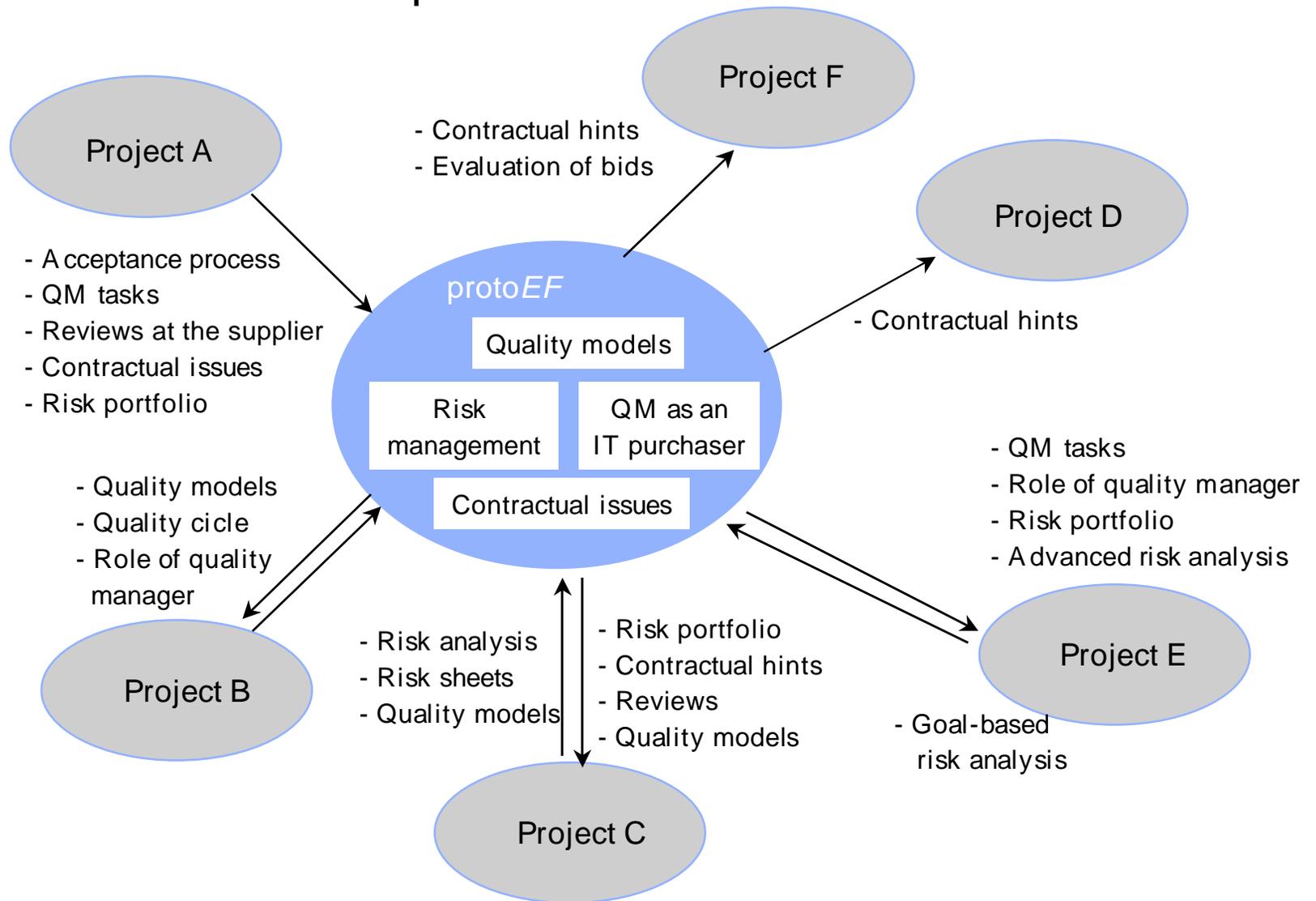


# Example: Initial Seed, Evolution and Reseeding

- Experience base for review techniques
- Evolution of experience



# Example: Reinfusion concepts



Central  
IT services

## Summary

- SEL 's EF concept is good starting point. However, tailoring is necessary
- Implementing the experience factory idea is a long term activity
- Short term improvements are expected
  - Experience factory concept has to provide suitable mechanisms
  - Providing a whole spectrum of mechanisms for
    - Experience reinfusion
    - Experience gaining
    - "Quality of Information"

→ Software Experience Center (SEC)

