



COSMOS: SOA to improve KPIs

Accountability Workshop - 17/06/2009
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INTRODUCTION

ESF Member Organisations



80 MOs in 30 countries

Research funding organisations

Research performing organisations

Academies

ESF Mission & Strategy

- Added value through cooperation at European level
- 3 Pillars
 - Science Strategy
 - Science Synergy
 - Science Management
- All disciplines of Science

ESF Key Characteristics

- Association (1974)
- Independent
- 2008 Budget 53M€
- 152 FTEs
- Brussels, Ostend, Strasbourg

Why overhaul the Information System?

Vision:

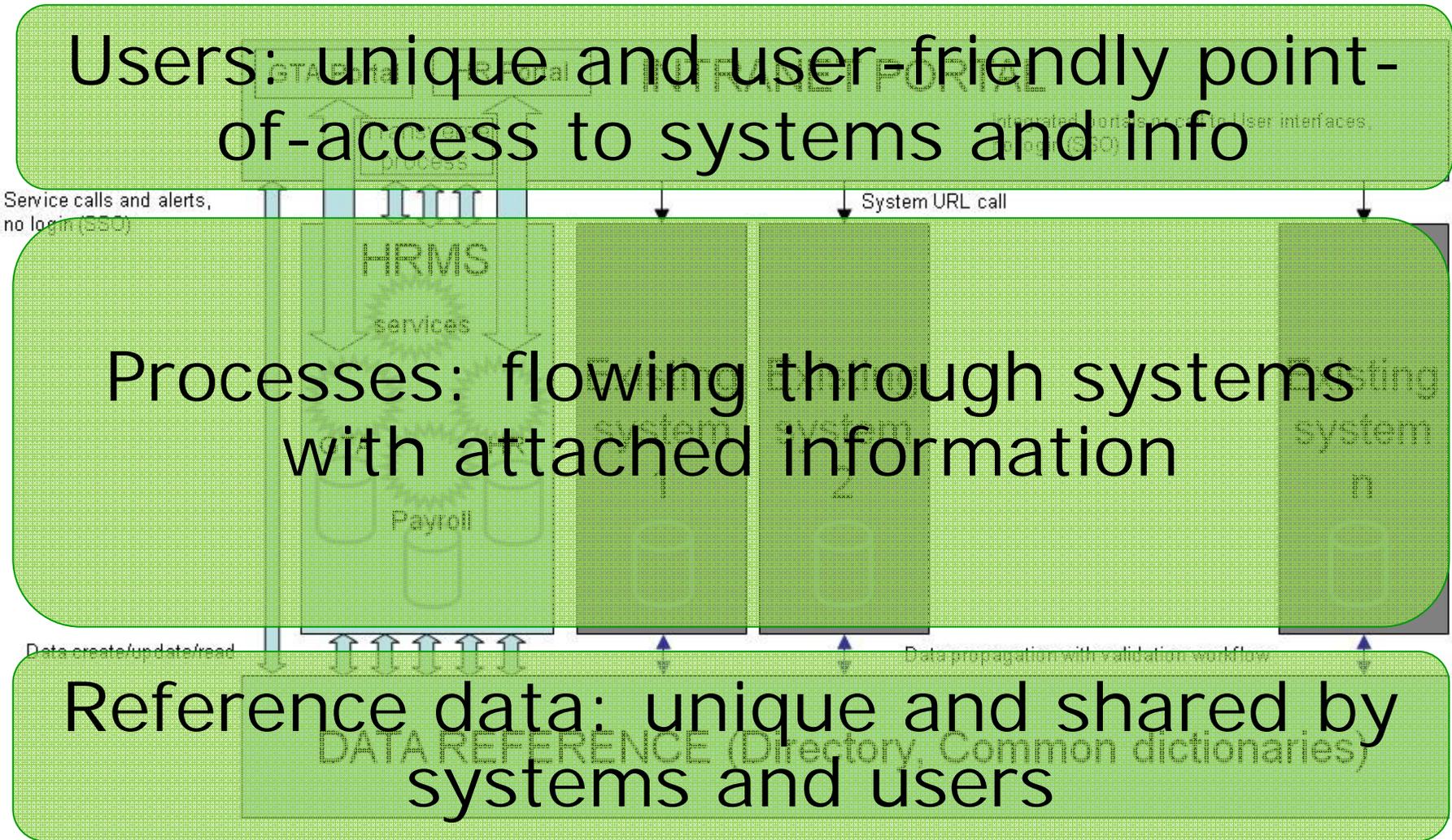
Answer business needs through effective and efficient management of operations

Triggers and objectives:

- *Integration*: users experience, transverse processes, reference data
- *Systems upgrade*: volume of transactions, automation, user-friendliness, decision support
- *Process orientation and flexibility*

APPROACH TO TARGET IS

Integration at 3 levels

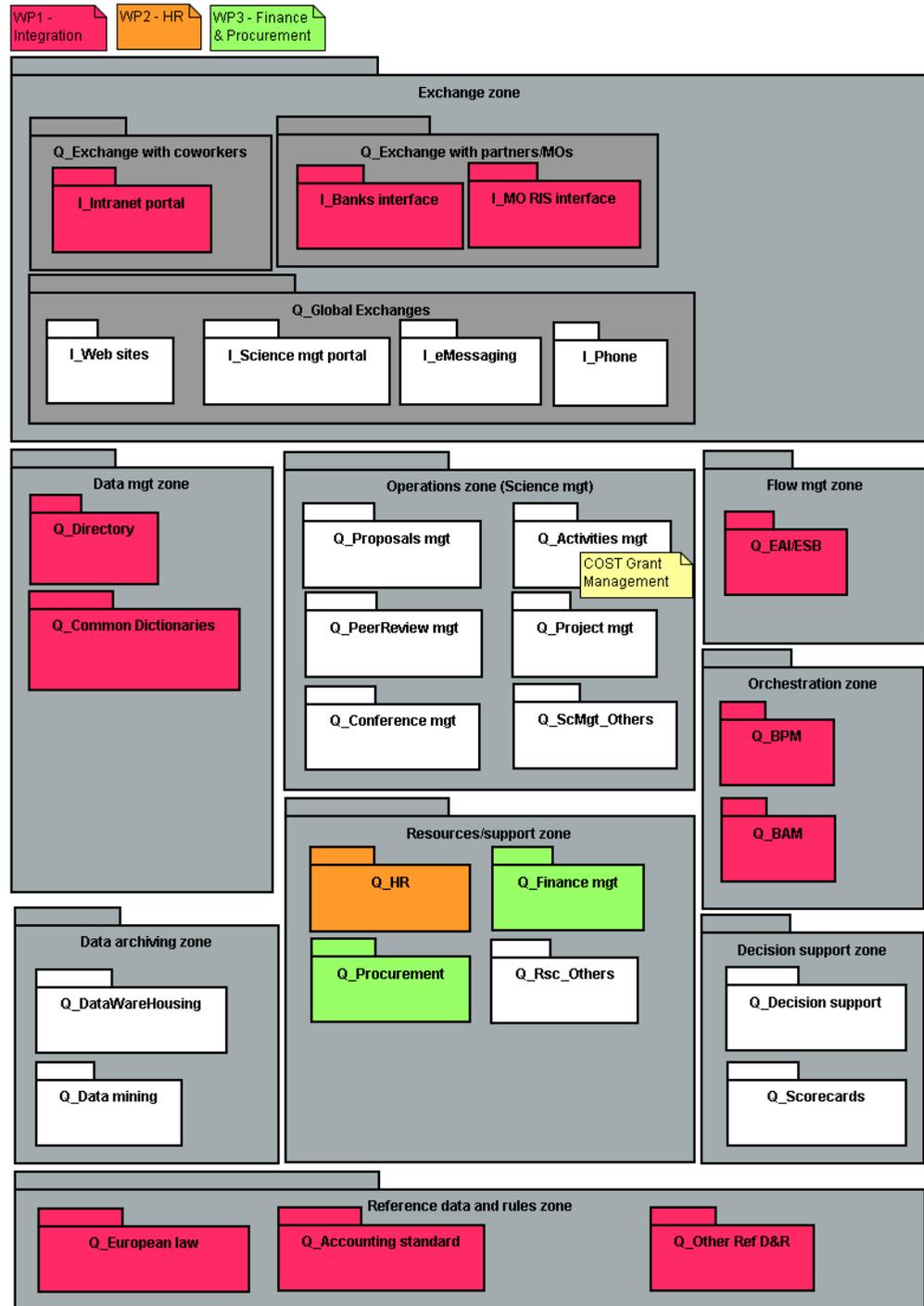


Project approach

- Use of Enterprise Architecture (urbanization)
 - Business view
 - = processes + business model (Common Information Model)
 - Functional view
 - Applicative view, with reuse of existing applications/modules if possible
 - Technical view
- Purchase rather than develop, especially for functional modules others than core business

Target Applicative Architecture

*The IS seen as a set of modules;
Use of the city map metaphor for blocks (applications and modules) and streets (for information circulation)*



Acquisition and Integration approach

	1. Monolithic/ centralized application (ERP + customization)	2. ERP + Best-of-breed + specific dev	3. Best-of-breed + specific dev = “ <u>Modular acquisition</u> ”
A. Unique DB	Procedures rationalization & user productivity: Medium Integration: Medium Flexibility: Low	N/A	N/A
B. Point-to-point integration	N/A	Procedures rationalization & user productivity: Medium to High Integration: Medium Flexibility: Low	Procedures rationalization & user productivity: High Integration: Medium Flexibility: Medium
C. <u>SOA</u>	N/A	Procedures rationalization & user productivity: Medium to High Integration: High Flexibility: Medium	Procedures rationalization & user productivity: High (1) Integration: High Flexibility: High (2)

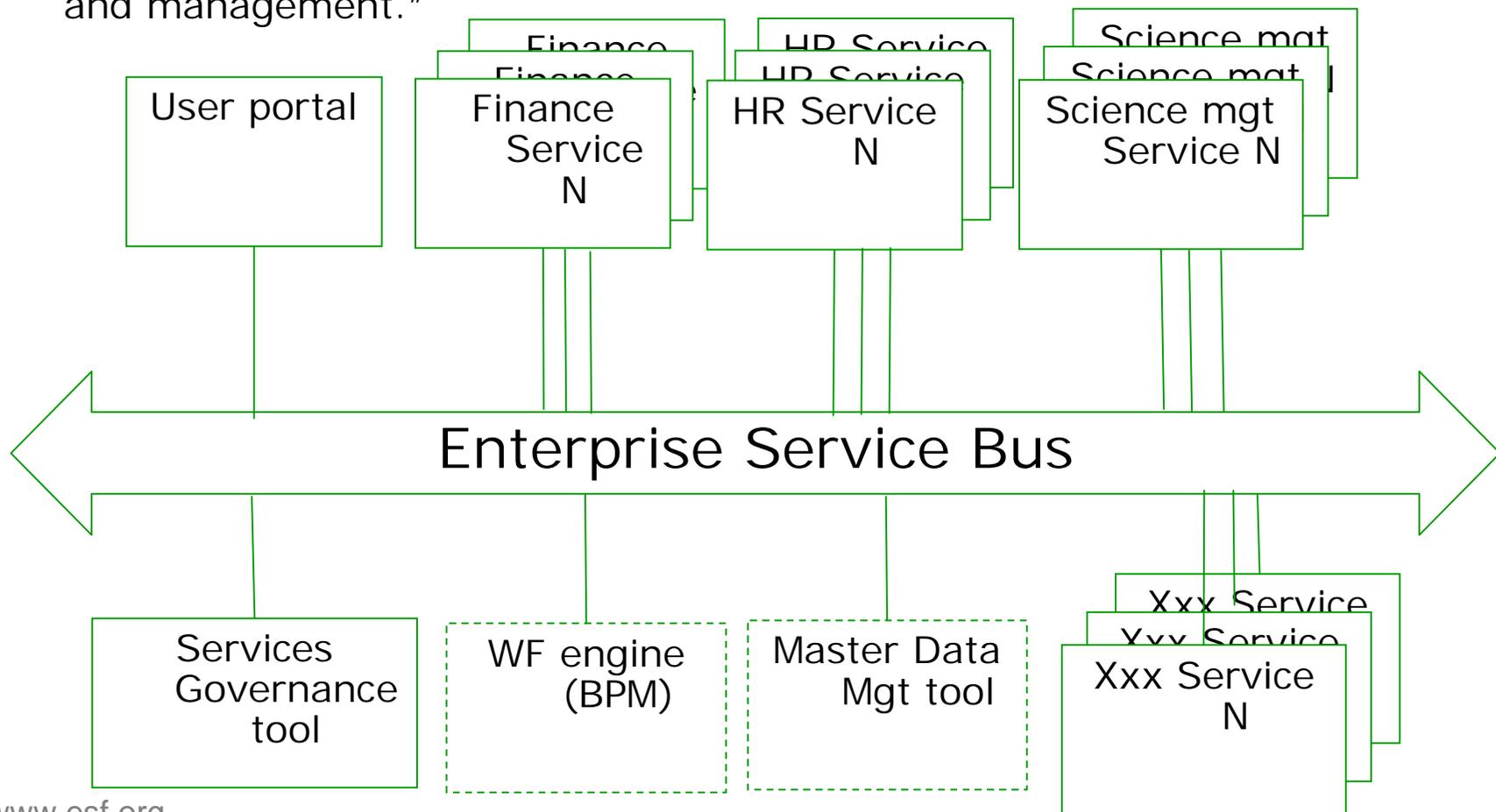
- (1) Condition = availability of modules with high functional coverage AND being SOA-compliant
- (2) Condition = initial assistance in defining correctly the services (granularity...)

Conclusion:

Modular acquisition
+ Service-Oriented Architecture

Service-Oriented Architecture (SOA)

“Service-Oriented Architecture makes individual pieces of business functionality available as reusable, loosely-coupled services. This makes SOA the ideal underpinning technology for business process integration and management.”



KPI MANAGEMENT

Model and Plan

- Business Process Management: modeling processes allows to identify individual tasks by exposing the business logic
 - Each task can be defined as a “service”
 - The data flowing from one task/service to another and the events received/sent at each step are described
- Service Oriented Architecture: this subdivision into services provides for measurement/control points
 - The data flowing from one service to another can be intercepted and used as an indicator or to calculate an indicator
 - Whereas in “monolithic” applications, it is difficult to reach intermediate data and events

Automate

- *Automation of data flow* allows to calculate and compare homogeneous data
- *Automation of measurement* by intercepting the events and data from the implemented services, allowing to feed KPIs on a real time basis

Measure and Monitor

- The portal is where the integration at the user level is provided and where the KPIs
 - can be displayed (dash boards, alerts) in a clear way
 - can be personalized: push the right indicators to the right persons at the right time

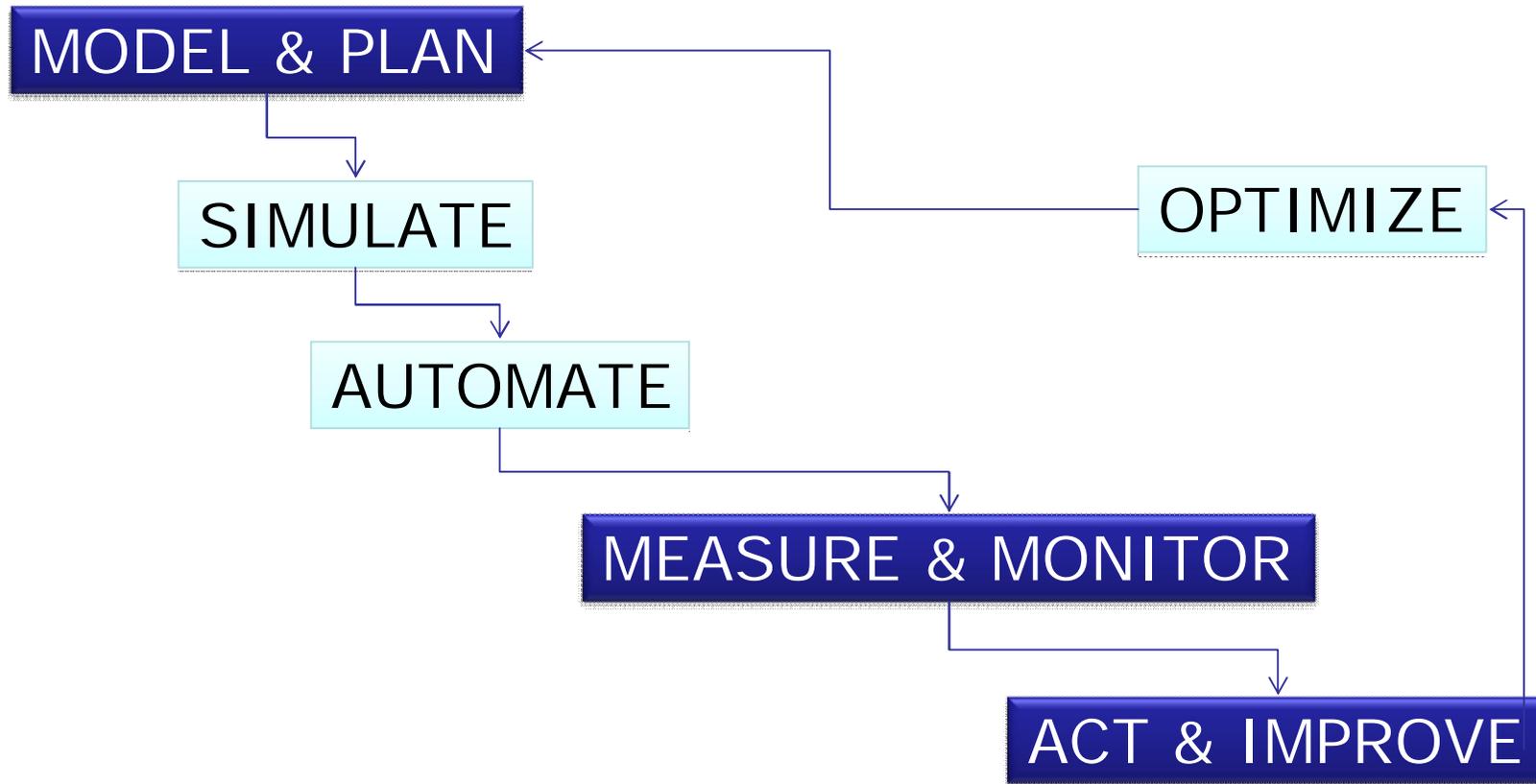
Act and Improve

- Actions can be taken based on the obtained data to improve the KPIs
 - Identify the bottle necks
 - Identify the low added-value / high cost activities
 - Go back to modeling to avoid / reduce these activities
 - Define / revise Service Level Agreements [for the implemented services]
 - (if possible) Run simulations to measure the impact before implementing the changes

Simulate

- Simulation allows to evaluate alternatives for improvement with minimal risk; the evaluation relies on
 - the modeled business processes
 - the collected data

Synthesis



EXAMPLES

Example 1

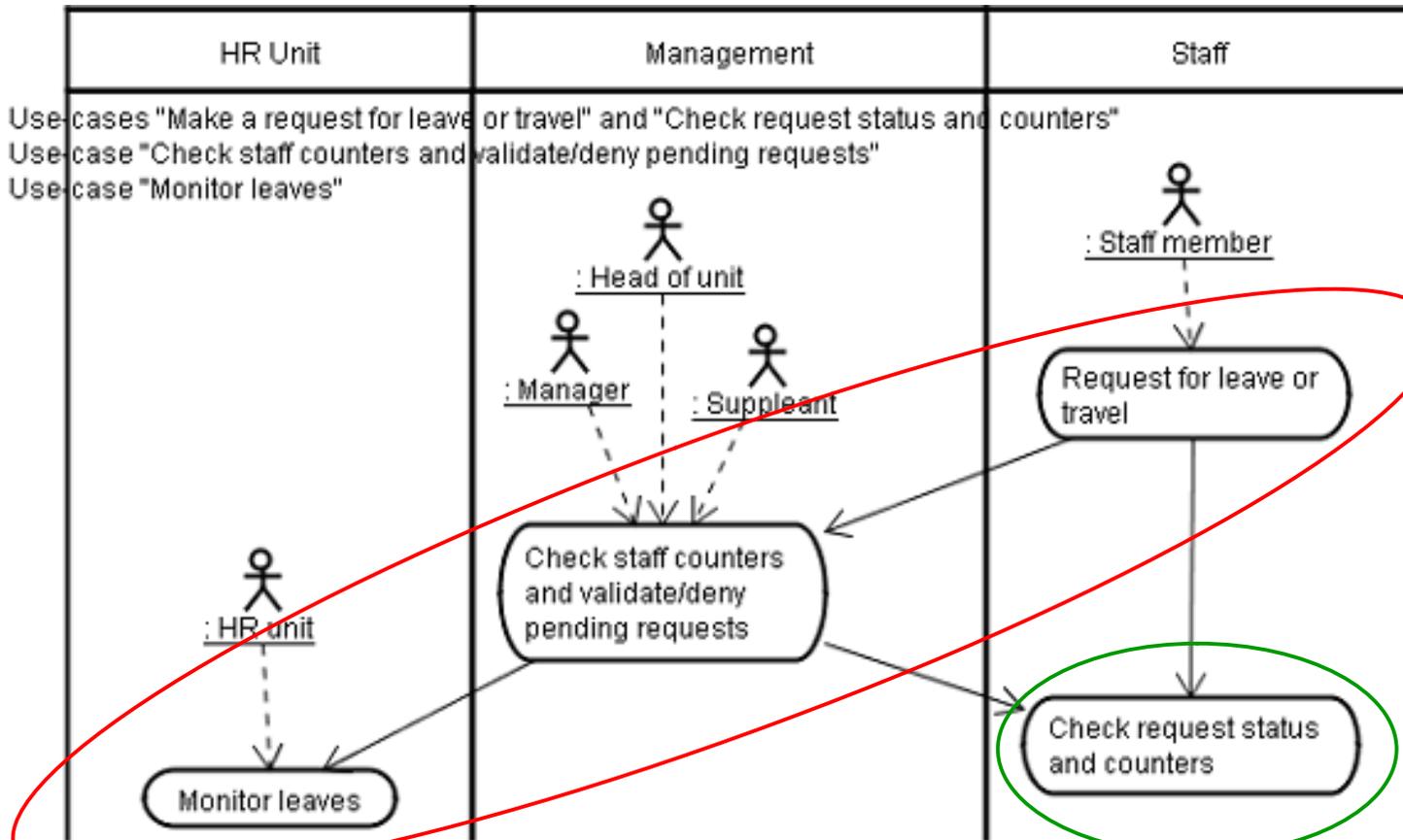
Process: Time & Attendance

Process objective: Absence management

KPI: Status of counters at 31/12/xx
=> Vacations taken on time

Expected benefit: Higher efficiency in
communications [TIME]

Ex 1: Process



Workflow to automate the process

Automate the measure:
here, counters can
be captured

Example 2

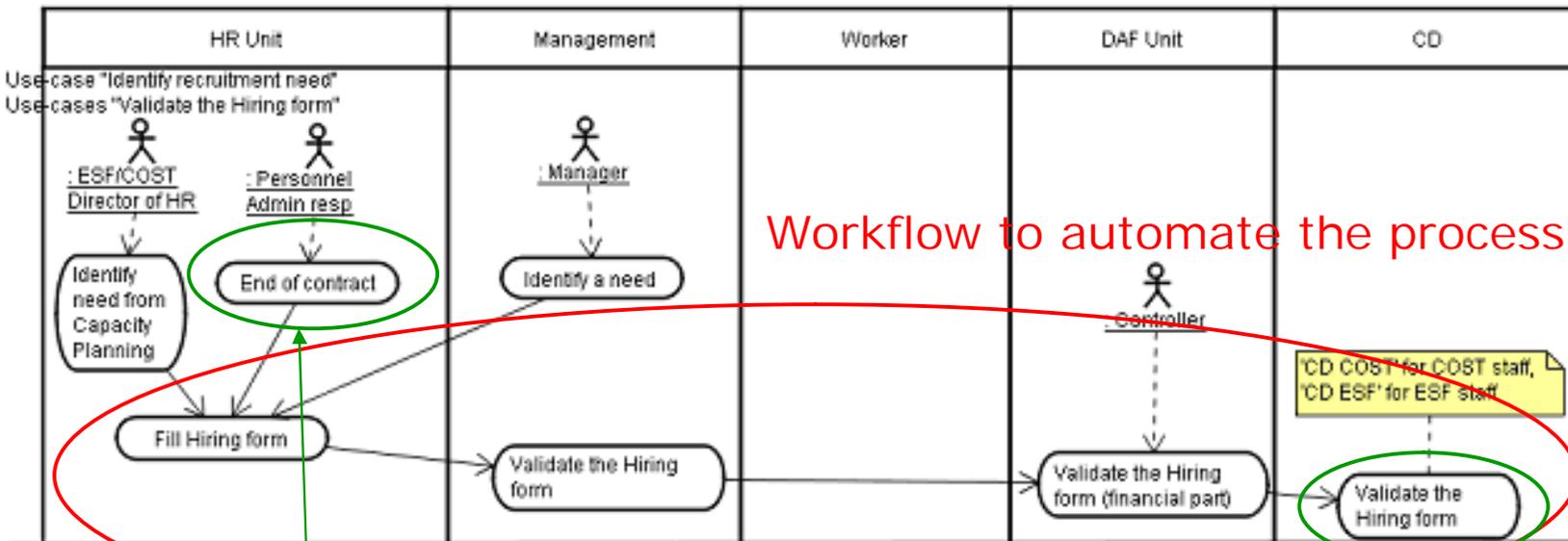
Process: Recruitment

Process objective: Perfect match
between new employee and job

KPI: Average times for recruitment
=> As low as possible for some
intermediate points

Expected benefit: Lower time to
match candidate and job [TIME]

Ex 2: Process



Workflow to automate the process

Automate the measure:
here, date&time of events
can be captured

Example 3

Process: Personnel Administration

Process objective: Up to date personal information

KPI: Number of manual inputs by HR
=> As low as possible

Expected benefit: Higher data quality and lower HR workload through employee self-service [QUALITY, TIME]

CONCLUSION

Conclusion

- A certain number of expectations with BPM and SOA:
 - monitor indicators
 - and improve efficiency
- Partly achieved:
 - modeling of processes (HR, Finance, Procurement)
 - and identification of KPIs

See you next year to assess first results!